THE UNIVERSITY OF HULL

AN INVESTIGATION OF THE FACTORS WHICH INFLUENCE THE DEGREE OF PATIENT INVOLVEMENT IN THE PHYSIOTHERAPEUTIC CONSULTATION

Being a Thesis submitted for the Degree of Doctor of Philosophy in the

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By

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Abstract

The term patient involvement is widely used within the physiotherapy vocabulary, yet it is poorly defined and understood. Little is known about NHS physiotherapists' attitudes, knowledge or skills regarding patient involvement. The aims of this thesis were therefore to: i) identify the attributes which define the concept of patient involvement in physiotherapy using a method of concept analysis; ii) investigate physiotherapists' attitudes towards the involvement of patients by means of a national survey; iii) explore patients' attitudes towards their involvement in the physiotherapy consultation using a local survey; iv) explore physiotherapists' ability to recognise effective practice in patient involvement by means of a regional study using video vignettes of simulated consultations; v) ascertain to what extent physiotherapists involve patients in their physiotherapy care by means of an in-depth local observational study.

A review of published literature was conducted. This focussed on physiotherapy researchers', patients' and other healthcare professionals' use of the term *patient involvement.* From this review, seven attributes were identified which define the concept of patient involvement in physiotherapy for the purpose of this thesis.

No published instruments could be found which incorporated the above attributes and were validated for use by physiotherapists and their patients. Four instruments were developed for the purpose of this thesis: *Physiotherapists' Attitudes towards Patient Involvement (PAPI-A)* questionnaire; a matched questionnaire to investigate *Patients' Attitudes towards Patient Involvement (PAPI-B); Vignette Evaluation Sheet,* to explore physiotherapists' knowledge of patient involvement; *Patient Involvement in physiotherapy Evaluation (PIE) tool,* a rating tool to assess video-recorded physiotherapy consultations.

A national survey of 735 physiotherapists found that 48% of physiotherapists agreed with all aspects of patient involvement, as measured by the PAPI-A. Almost 75% of physiotherapists agreed with all items on the "*involvement in treatment planning"* sub-scale, whilst 78% agreed with all items on the "*exploration of the patient's perspective of their problem"* sub-scale. Stepwise linear regression models explained less than 12% of variance in the PAPI-A scores. Being of female gender

or having accessed the survey through the interactive CSP website predicted higher scores in the PAPI-A and its sub-scales.

Seventy six patients responded to a local survey of patients' attitudes towards involvement. Forty four percent of those patients agreed with all PAPI-B items. The PAPI-B had three sub-scales: 84% of patients agreed with all items regarding the importance of having a "*therapeutic relationship with the physiotherapist";* 74% believed that they should be "*involved in treatment planning";* whilst 77% believed that the physiotherapist should "e*xplore the patient's perspective of their problem"*. Cohabitation with a partner/spouse was predictive of a lower PAPI-B score.

Physiotherapists' and patients' beliefs differed regarding what they considered to be the most important aspects of patient involvement.

Physiotherapists from nine NHS Trusts (n=257) watched three video vignettes of a simulated physiotherapy consultation, and rated how well the physiotherapist involved the patient. Respondents' ratings were compared with those of an expert panel. Thirty physiotherapists (12%) achieved total agreement with the expert panel, whilst 58% (n=147) of physiotherapists' knowledge was considered to be within acceptable limits. The odds of achieving an acceptable knowledge score were, on average, 2.6 times higher for physiotherapists aged between 26 and 30 years.

To investigate how well physiotherapists encourage their patients' involvement during the clinical consultation, 20 physiotherapists representing three clinical areas, were recorded in consultation with 76 out-patients; approximately 4 consultations per physiotherapist. No physiotherapist achieved an acceptable score in all 36 PIE items. Six physiotherapists (30%) were considered to have made a reasonable attempt to involve their patients, on the basis that they were observed to have performed at least half of the PIE items to an acceptable or good standard.

In conclusion, this research suggests that most physiotherapists have a positive attitude towards patient involvement; fewer seem able to recognise it in practice and a much smaller proportion are able to implement it to an acceptable standard in their clinical practice. Possible explanations for these findings and their subsequent impact on practice are discussed together with suggestions for future study.

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I dedicate this PhD to the memory of my father, Mr John Wyatt, and to Winifred and Michael Scanlan.

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List of Abbreviations

<	Less than
>	Greater than
A levels	Advanced level certificate of educational achievement
AMED	Allied and Complimentary Medicine Database
ANOVA	Analysis of Variance
B	Beta
Cardio-Resp	Cardio-respiratory
CSE	Certificate of Secondary Education
C.S.P.	Chartered Society Of Physiotherapy
df	Degrees of Freedom
DoH	Department of Health
e.g.	For example
ExpB	Exponent Beta (Odds Ratio)
GCSE	General Certificate of Education
G. P.	General Practitioner
HADS	Hospital Anxiety and Depression Scale
HPC	Health Professions Council
ICC or ρ	Intraclass or Intracluster correlation coefficient
i.e	That is to say
MHLC	Multidimensional health locus of control scale
MSk	Musculoskeletal
n	Sample size
Neuro	Neurology or Neurological
NHS	National Health Service
O level	Ordinary Level certificate of educational achievement
OSCE	Objective structured clinical examination
O.T.	Occupational Therapy or therapist
PAPI-A	Physiotherapist's Attitudes towards Patient Involvement questionnaire
PAPI-B	Patients' Attitude towards Patient Involvement questionnaire
PEDro	Physiotherapy Evidence Database
Physio	Physiotherapy

PEI	Patient Enablement Index
PIE	Patient Involvement in physiotherapy Evaluation tool
Postgrad	Post-graduate
RCTs	Randomised Controlled Trials
SD / Std Dev	Standard Deviation
S.E.	Standard error
SEM	Standard error of measurement
Sig	Significance
U.K	United Kingdom
Vn	Version
$\bar{x}$	Mean

Chapter 1:

Introduction to the concept of patient involvement in relation to physiotherapy and outline of the thesis

This thesis commences with an analysis of the concept of patient involvement in physiotherapy. The defining attributes are then used to develop a number of physiotherapy-specific instruments in order to investigate physiotherapists' and patients' attitudes, and physiotherapists' knowledge and skill pertaining to the involvement of patients in physiotherapy consultations. The potential influence of physiotherapist-related variables on their attitudes, knowledge and skills are investigated. Such variables include age, professional experience, gender, clinical specialty, perceived competence as a communicator and receipt of additional communication skills training.

This chapter will explain why patient involvement in physiotherapy has been selected as a concept worthy of study. It will list the research questions and conclude with an overview of the thesis structure to orientate the reader.

1.1 Why the concept of patient involvement in physiotherapy was selected as the subject of this thesis

The Department of Health (DoH) intends to modernise the National Health Service (NHS) by encouraging greater involvement of patients and the public in the delivery and planning of health care (Department of Health, 2000a; Farrell, 2004). Some confusion exists between *public involvement,* which is the participation of members of the public and their representatives in decisions regarding local health services (Department of Health, 2004b), and *patient* involvement, which refers to "the full participation of patients and their carers in their own care and treatment" (Farrell, 2004, page 66). Whilst public involvement in physiotherapy service development is worthy of further study, it is beyond the scope of this thesis. Instead, this thesis will focus on factors which influence physiotherapists' attempts to involve their *patients* in the physiotherapy consultation.

As a Governmental requirement (Department of Health, 2005), patient involvement

is included in the Healthcare Commission "Standards for Better Health" (Department of Health, 2004c; Standard D9). It is also incorporated into the Health Professions Council (HPC) standards of practice for U.K. physiotherapists (Health Professions Council, 2003, standard 1b, part 5, page 8) and the Chartered Society of Physiotherapy (C.S.P.) core standards (Chartered Society of Physiotherapy, 2000, standard 8.1). Physiotherapists are encouraged to recognise the necessity of using interpersonal skills to facilitate the involvement (Health Professions Council, 2003, standard 1b, part 5, page 8) of their patients in any decisions which contribute to the development of a mutually acceptable treatment plan (Chartered Society of Physiotherapy, 2000, standard 8.1). However the means by which this might be achieved, and the measures needed to determine compliance with these standards are not specified.

To date, research into patient involvement has predominantly focussed on the behaviours of Doctors (Weiss, 1986; Lewis, Pantell and Sharp, 1991), in particular, General Practitioners (Elwyn, Edwards, Hood *et al.*, 2004), Oncologists (Butow, Maclean, Dunn *et al.*, 1997) and their patients (Greenfield, Kaplan and Ware, 1985). In spite of this research activity, a series of matched surveys conducted on different UK patient populations, found that between 30% (hospital out-patients) and 59% (stroke patients & patients referred to mental health services) of patients surveyed were *dissatisfied* with the extent to which they were involved in their health care (Picker Institute Europe, 2005; Healthcare Commission, 2006). Oncology patients were the most satisfied with their involvement in care (n=85%). This finding may be attributable to the volume of research interest in Oncological communication and the recommended provision of communication training (Street and Voigt, 1997; Fallowfield and Jenkins, 1999). These surveys omitted reference to physiotherapy care.

To summarise, patient involvement is a requirement of all physiotherapists, yet there are no operational definitions to indicate how this might be achieved in a physiotherapeutic context. As a result there can be no gold standard tools to measure patient involvement in a physiotherapy consultation (Streiner and Norman, 2003). It appears that NHS patients are dissatisfied with their doctors' attempts to involve them in consultations. However, the extent to which NHS physiotherapists involve

patients in their care is unknown as there has been little research conducted which has investigated patient involvement in physiotherapy.

1.2 Motivation for the Thesis

The author's clinical experience as a physiotherapist led to a belief that whilst physiotherapists like to believe that they empower patients to participate in their rehabilitation, in practice, patients' involvement is not optimally sought. As a result, patients, and their carers, depend on the physiotherapist to affect change in their condition. Efforts to involve patients may be inhibited by time constraints, a perceived lack of treatment options, limited recognition of the need to address patients' emotional and social needs in addition to their physical problems, and above all, a failure to recognise the importance of patient involvement as a therapeutic tool.

The motivation for this thesis was a desire to understand what constitutes effective patient involvement in physiotherapy, to investigate whether the author's perception is accurate, and to identify factors which influence the extent to which physiotherapists' involve their patients in clinical practice. Such information would inform physiotherapy managers and tutors: a) whether NHS physiotherapists would benefit from additional training in patient involvement; and b) which factors influence the extent to which physiotherapists' involve their patients in clinical practice, and hence should be addressed in any training programmes.

1.3 Research Questions

The aims of this thesis were to present a critical analysis of the concept of patient involvement in physiotherapy; to investigate the extent of physiotherapists' attitudes, knowledge and skills regarding the involvement of patients in physiotherapy consultations, and to explore whether these variables can be predicted by physiotherapists' demographic variables.

The thesis was designed to answer the following research questions:

a) What attributes define patient involvement in a physiotherapeutic context?
b) What proportion of NHS physiotherapists believe that patients should be involved in physiotherapy consultations, and can physiotherapists' attitudes towards patient involvement be predicted by socio-demographic variables?
c) What proportions of local physiotherapy out-patients (i.e. from one Acute NHS Trust), believe that they should be involved in their physiotherapy consultations, and can these patients' attitudes be predicted?
d) Do patients' and physiotherapists' have similar attitudes and beliefs regarding patient involvement?
e) What proportions of NHS physiotherapists' know when a patient is being effectively involved in the physiotherapy consultation, and can physiotherapists' knowledge of patient involvement be predicted by socio-demographic variables?
f) To what extent do NHS physiotherapists involve their patients during an initial consultation, and can physiotherapists' ability to involve patients be predicted?
g) Is there a relationship between physiotherapists' perceived competence in communicating with patients and the extent to which they actually involve their patients in the consultation?
h) Is there a relationship between physiotherapists' attitudes towards patient involvement, their ability to recognise effective practice in patient involvement and the extent to which they involve their patients in the consultation?

1.4 Overview of the thesis

Figure 1.1 provides a diagrammatic overview of the thesis.

1.4.1 Stage One

Stage one comprises of three chapters which introduce the thesis (Chapter 1), provide a definition for patient involvement in physiotherapy (Chapter 2), and review the literature (Chapter 3), in particular, the relationship between patient involvement and health professionals' attitudes, knowledge and skill.

1.4.2 Stage Two

Chapter 4 describes the development, validation and piloting of four instruments: *Physiotherapist's Attitudes towards Patient Involvement (PAPI-A) questionnaire,* the *Patients' Attitudes towards Patient Involvement questionnaire (PAPI-B),* the *Vignette Evaluation Sheet,* and the *Patient Involvement in physiotherapy Evaluation (PIE) tool,* for the purpose of answering the questions raised in this thesis.

1.4.3 Stage Three

Stage three describes two surveys to determine, and compare physiotherapists' attitudes towards patient involvement in the physiotherapy consultation (Chapter 5), and patients' attitudes towards their involvement in the physiotherapy consultation (Chapter 6), using the *PAPI-A* and *PAPI-B* respectively.

1.4.4 Stage Four

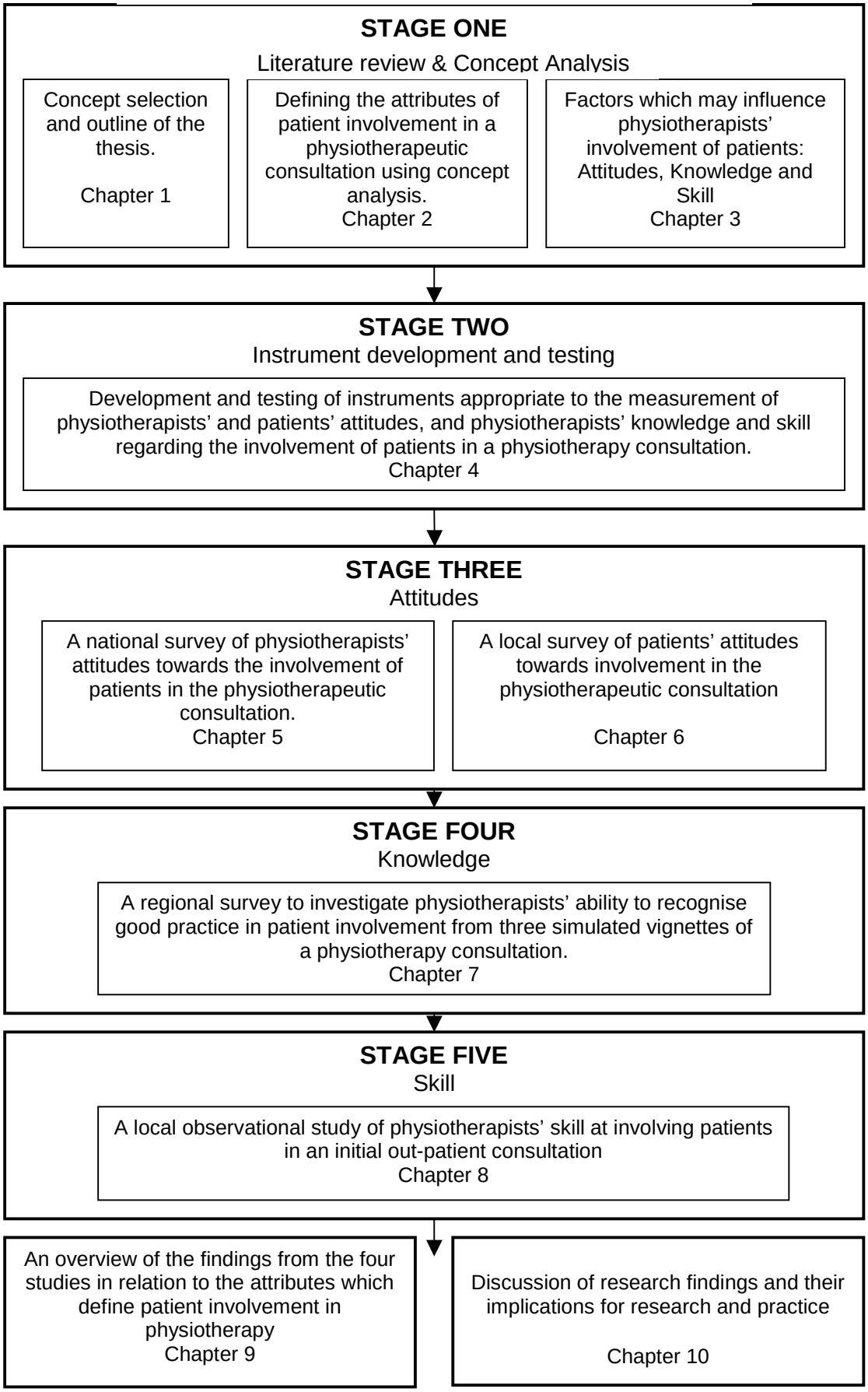
Chapter 7 describes a regional survey in which three vignettes of a simulated physiotherapy consultation, and the *Vignette Evaluation Sheet* were used to determine whether physiotherapists know when a patient is being effectively involved in a physiotherapy consultation.

1.4.5 Stage Five

Chapter 8 describes an in-depth observational study of a local sample of physiotherapists and their patients, which uses the *Patient Involvement in physiotherapy Evaluation (PIE) tool* to determine the extent to which physiotherapists' involve their patients in their initial out-patient physiotherapy consultation, and the skills that they employ.

Chapter 9 explores how the findings from the four studies relate to the attributes which define patient involvement in physiotherapy. Finally, chapter 10 presents a discussion of the studies and draws conclusions based on all the evidence gathered. The implications of this work on physiotherapy training and practice are explored.

Figure 1.1 Overview of the thesis



Chapter 2:

Identifying the attributes of patient involvement in a physiotherapeutic consultation using concept analysis.

2.1 Introduction

This chapter presents a critical analysis of the literature regarding the concept of patient involvement in physiotherapy. It identifies the defining attributes and empirical referents which constitute patient involvement in a physiotherapy context. This forms the basis on which the instruments, described in chapter 4, have been developed.

2.2 Preliminary search of the literature:

A preliminary search was conducted in January 2004 to exclude the possibility of any completed or on-going research in the area of physiotherapy and patient involvement.

2.2.1 Data Sources

The following sources were searched:

- *Index to Theses* – database of completed UK theses (1970 onwards)
- *Dissertation Abstracts* – database of completed US theses (from 1861) and UK theses (from 1988)
- *National Research Register* – database of research projects of interest to the NHS
- *Chartered Society of Physiotherapy theses and dissertations list*

The primary search terms used were

physiotherapy (physical therapy or therap$)
patient (client, consumer, person or customer);
involvement (participation, partnership, relationship or patient-centred);

2.2.2 Results

Two dissertations were identified. One was a small qualitative survey undertaken for a graduate diploma, which examined physiotherapists' attitudes towards patient participation in treatment (Nash, 1993). This lacked methodological rigour.
The second examined the importance of patient-centred information on health outcomes for patients with traumatic brain injury (Pegg Jnr, 2003). This study compared the effects of tailored, treatment-specific information with generalised information on patient satisfaction, cognitive functioning and patient participation in physiotherapy. The study lacked power, containing a total of 28 patients, 14 in each arm and hence results were unable to be generalised.

There were no studies of patient involvement in physiotherapy registered on the National Research Register at the time of the search.

2.3 Concept Analysis methodology

Concept analysis identifies the defining attributes (Walker and Avant, 2005) of a poorly understood or overused concept, for the purpose of theory development and research (Rodwell, 1996). As a concept is an abstract mental classification (Allen, 2000), or linguistic representation of phenomena (Morse, 1995), its analysis requires interpretation of the spoken or written word, and therefore may change, as knowledge develops (Rodgers and Knafl, 1993). Individual attributes may relate to more than one concept (Wittgenstein, 1967), therefore it is the unique combination of attributes which operationally define the concept (Walker and Avant, 2005).

This thesis uses the method proposed by Walker and Avant (2005) which consists of 8 iterative steps:

1. concept selection
2. determination of the aims or purpose of the analysis
3. identification of all uses of the concept
4. determination of all defining attributes
5. construction of a model case
6. construction of borderline, related, and contrary cases
7. identification of antecedents and consequences
8. definition of empirical referents

Walker and Avant (2005) recommend that conceptual attributes should not be contextually bound, i.e patient involvement should be considered in relation to all healthcare professions rather than physiotherapy alone. However, this assumes that patient involvement in a primary care consultation has the same attributes as in a physiotherapy consultation. Certain attributes are common to both, such as the need for information exchange, and to delegate decisional control. However, the scope for patient involvement in a primary care consultation is more limited than in a physiotherapy consultation, owing to the limited time that General Practitioners can spend with each patient (Royal College of General Practitioners, 1999). In addition, as a profession concerned with rehabilitation, physiotherapists devote more consultation time to teaching self-management strategies (Watson, 1996; Klaber Moffett, 2002) and the formation of treatment goals (Wade, 1999a; Stucki and Kroeling, 2000). Patients' expectations of physiotherapy have been shown to influence outcome (Metcalfe and Klaber Moffett, 2005). However, these hopes or expectations may be unrealistic, particularly if patients have not had previous experience of physiotherapy (Dowswell, Dowswell, Lawler *et al.*, 2002; Clemence and Seamark, 2003). By involving their patients, physiotherapists can ensure that patients' expectations are realistic, negotiate meaningful treatment goals and provide self- management advice which is tailored to suit the patient's unique needs and circumstances. In this way, the physiotherapist and patient work together to derive the best possible outcome from their physiotherapeutic care. As the purpose of this thesis is to develop a better understanding of patient involvement in the physiotherapy consultation, the concept will be defined in this context, a practice which is supported by Rodgers (1993).

2.4 Determination of aims of the analysis

The inclusion of terms such as patient involvement within physiotherapists' core standards (Chartered Society of Physiotherapy, 2000, standard 8) suggests that the phrase is an accepted part of the physiotherapy vocabulary. Although this terminology has become widely adopted, it lacks universally agreed definitions (Stewart, 2001; Mead and Bower, 2002; Michie, Miles and Weinman, 2003; Gillespie, Florin and Gillam, 2004) both in a medical and physiotherapeutic context. It has largely become synonymous with the decision making process

(Elwyn, Edwards, Kinnersley *et al.*, 2000; Chartered Society of Physiotherapy, 2000, standard 8.1), owing to its' origins in primary care research (Roter, 2003). Whilst the decision to issue a prescription, order a test or refer to a specialist is the pinnacle of a primary care consultation, a physiotherapy consultation should also address self management strategies, treatment goals and outcome expectations (Mead, 2003). An aim of this analysis is therefore to determine whether the scope for patient involvement in physiotherapy is wider than the sharing of a decision. Academic literature uses the word *involvement* interchangeably with terms such as participation and collaboration (Waterworth and Luker, 1990; Buetow, 1998), partnership (Entwistle, Watt, Bugge *et al.*, 2002), and empowerment (Geest, Wetzels, Raposo *et al.*, 2005). A second aim of this analysis is thus to clarify the relationship between these terms and patient involvement.

2.5 Literature Review Methodology

In order to identify defining attributes of a concept it is necessary to review the existent literature (Morse, 1995). A systematic search was conducted of the following databases:

- Cochrane Library,
- AMED (1985 – Dec 2004),
- CINAHL (1982 – Dec 2004),
- EMBASE (1974 – Dec 2004),
- MEDLINE (1950 – Dec 2004),
- PsychINFO (1806 – Dec 2004),
- PEDro
- O.T. seeker.

2.5.1 Search Strategy

The initial search used the terms listed in section 2.2.1. The search was then widened to include the terms *consultation (interview, encounter, or assessment);* and

communication. Additional citations were obtained from hand and electronic searches of key peer-reviewed journals such as *Patient Education and Counseling, Social Science and Medicine, British Medical Journal, Health Communication, Health Expectations, Medical Education* and *Medical Care.* In addition, reference lists of key papers were searched for relevant articles that previous searches had not detected. The review did not include unpublished material.

2.5.2 Inclusion Criteria

The number of studies which examined the involvement of patients in physiotherapy was small, thus peer-reviewed papers which examined the participation or involvement of patients in other healthcare professions were included.

It is recommended that a literature review is based upon the highest levels of evidence (Siwek, Gourlay, Slawson *et al.*, 2002), such as homogenous Systematic Reviews and Randomised Controlled Trials (RCTs)(Oxford Centre for Evidence-Based Medicine, 2001). As patient involvement in a consultation is a poorly understood concept (Entwistle, Watt, Bugge *et al.*, 2002; Gillespie, Florin and Gillam, 2002) it was necessary to explore the theoretical framework which underpins the concept before any elements of the concept can be manipulated by means of RCTs (Medical Research Council, 2000). Accordingly, qualitative studies and non experimental observational studies were also included in this review.

2.5.3 Exclusion Criteria

Studies were excluded if they investigated patient involvement in physiotherapy groups, or interactions with more than one participant i.e. families; or public involvement in policy formation or service planning (Hird, Upton and Chesson, 2004). Single case studies or articles written in languages other than English were also excluded.

2.5.4 Results

The search of terms listed in section 2.2.1 identified 169 references of which 97 were relevant to this thesis. A secondary search, mentioned in section 2.3.1 identified 275 references of which 32 were retained. A further 86 references were

selected from searches of specific journals and from citation lists in key papers. In total, 46 papers referred to the interaction between physiotherapists and their patients, of which four referred explicitly to the involvement of patients in physiotherapy consultations.

2.6 Identifying different uses of the concept

This section will explore how physiotherapy researchers, patients and researchers and academics from other healthcare professions define involvement.

It is first necessary to explore the literal meaning of *involvement.*

The dictionary defines the verb, "*to involve"* as (a) "include as a necessary part or result", or (b) "cause to experience or participate in an activity or situation"; whilst the adjective *involved* is defined as "connected on an emotional or personal level" (Soanes, 2002, page 739). This infers that a patient's contribution results from the actions of another. It adds an emotional or personal perspective to the consultation, without which the consultation would be incomplete.

As the primary focus of this thesis is the physiotherapy consultation, the use of the term *patient involvement* in relation to physiotherapy will be explored first.

2.6.1 Uses of patient involvement in physiotherapy

The Chartered Society of Physiotherapy (C.S.P.) uses the term *involvement* to describe the inclusion of the patient in decisions which contribute to the development of a mutually acceptable treatment plan (Chartered Society of Physiotherapy, 2000, standard 8). This plan might include proposed interventions and time scales, treatment goals and suitable outcome measures.
Four studies have examined patient involvement in physiotherapy, as listed in table 2.1.

Table 2.1: Studies of patient involvement in physiotherapy

Author	Year	Methodology used	Sample Size	Focus
Arnetz, J. E. Bergstrom, A. K. Franzen, Y. Nilsson, H.	2004	Randomised controlled trial	77 patients at a Swedish university hospital department of rheumatology	Patient involvement in the formation of treatment goals
Baker, S. M. Marshak, H. H. Rice, G. T. Zimmerman, G. J.	2001	Physiotherapist and patient surveys and observational analysis of audio-taped initial examinations	Twenty-two physiotherapists and 73 elderly patients	Patient involvement in the formation of treatment goals
Payton, O. D. Nelson, C. E.	1996	Qualitative (Semi-structured interviews)	Twenty physiotherapy patients from 4 clinical sites	A preliminary study of patients' perceptions of certain aspects of their physical therapy experience
Payton, O. D. Nelson, C. E. St Clair Hobbs, M.	1998	Qualitative (Semi-structured interviews)	109 patients in three hospitals in USA. Only 8 patients were over 65 and 19% were below the poverty line.	Physical therapy patients' perceptions of their relationships with health care professionals

The study by Arnetz and colleagues (2004) compared the effectiveness of a goal forum, in which the physiotherapist and patient negotiated treatment goals, with usual physiotherapy practice as control. The paper did not elaborate on the degree to which the patient's goals were accepted when there was a difference in opinion i.e. to what extent the final plan reflected the patient's goals.

In her introduction, Arnetz referred to other definitions of patient involvement, which included activating patients to participate in decisions, encouraging

participation in treatment, and the role of patient information as a means of facilitating patient involvement.

A comprehensive study of physiotherapeutic goal setting by Baker (Baker, Marshak, Rice *et al.*, 2001) used both observational techniques, and surveys to explore a) physiotherapists' beliefs about the importance of patient involvement in goal setting, their competence in this task and the barriers which prevent this from occurring, and b) patients' satisfaction with their examination. Patient involvement was defined in terms of the following physiotherapist behaviours: a) preparation (i.e. imparting information about physiotherapy services, treatment, assessment procedures and assessment findings, participation methods and the nature and potential outcomes of treatment), b) clarification of concerns, and c) goal setting. The physiotherapist survey also included items relating to the development of a rapport between therapist and patient, and the need to explore the patient's view of their problem. The findings from this study and the instruments used will be discussed further in the following chapter.

Two studies (Payton and Nelson, 1996; Payton, Nelson and St Clair Hobbs, 1998) used the term *involvement* to describe patients' input in setting therapy goals, in planning treatment and in assessing treatment outcome.

The term *involvement* has also been used to describe physiotherapists' efforts to elicit patients' preferred activities in the course of their stroke rehabilitation (Jones, Mandy and Partridge, 2000), and to facilitate patient participation in rehabilitation activities (Lenze, Munin, Quear *et al.*, 2004).

In addition it has been used to describe a physiotherapist's attempts to activate a patient by showing an interest in their background and personality (Wottrich, Stenstrom, Engardt *et al.*, 2004).

In summary, the term *involvement* has been used in physiotherapeutic studies to describe the development of a treatment plan, the formation of treatment goals, and as a means of eliciting the patient's preferred treatment activity.

Baker et al (2001) in their study, found a large discrepancy between the number of patients who claimed to have been involved in setting treatment goals, and the number who had actually collaborated in the process. This finding supports the suggestion that patients' beliefs about the meaning of involvement differ from those of the professional (Payton and Nelson, 1996; Street and Voigt, 1997; Arnetz, Bergstrom, Franzen *et al.*, 2004).

Hence the next section will explore patients' beliefs regarding their involvement in healthcare.

2.6.2 Patient beliefs regarding the meaning of involvement

As stated above, Payton and colleagues conducted two qualitative studies which explored patients' perceptions of their physiotherapy care (Payton and Nelson, 1996; Payton, Nelson and St Clair Hobbs, 1998). Whilst the aim of both studies was not to investigate patients' understanding of involvement, the questions asked in the latter study elicited patients' beliefs regarding expectations of their role in physiotherapy and the degree to which they wished to be involved. Accordingly, 21.1% of patients reported that they expected the physiotherapist to tell them what to do, and 22.9% did not expect to have to make decisions, whereas 67.9% and 46.8% wanted more involvement in setting goals and treatment decisions, respectively. Interestingly, 24.8% wanted no further involvement on the basis that they did not know how to be more involved.

As patients' preferences for an active or passive role in their rehabilitation appear to differ, one might wonder whether patients' beliefs about what constitutes involvement in a consultation might also differ from each other, and from those of the physiotherapist. Hence, the discrepancy in Baker's study, between perceived and actual involvement in goal setting, might be explained by the fact that patients believed that their involvement had been sought when the physiotherapist asked them to consent to a goal that she had devised. However, according to item 17 (*Collaborates with patient to establish goals)* in Baker's *Participation Method Assessment Instrument*, seeking the patient's consent would not have been classed as effective involvement in goal setting (Baker, 2001; p1124). Therefore patients' perceptions of involvement may have differed from the researcher's interpretation of

what constituted effective patient involvement. This point is further debated in section 2.9 of this chapter.

For early stroke patients, who are coming to terms with their condition, the *perception* of having control over their care is more important than achieving involvement (Jones, Mandy and Partridge, 2000; Edwards, Elwyn, Smith *et al.*, 2001). Such perceptions may be based on offering choices, and providing the patient with simple activities which they can do between therapy sessions.

Studies of medical consultations have suggested that patients' perceptions of involvement are predominantly of being given information about their condition and treatment choices (Weiss, 1986; Entwistle, Watt, Bugge *et al.*, 2002; Kennedy and Rogers, 2002; Thompson, Rudat, Staniszewska *et al.*, 2002; Haugli, Strand and Finset, 2004) which are consistent with their own beliefs about their problem (Arborelius and Bremberg, 1992; Britten, Stevenson, Barry *et al.*, 2000). They feel involved when given the opportunity to: share their concerns and opinions; contribute to discussions; feel that their views are respected and valued; discuss what they want without being rushed; ask questions (Weiss, 1986; Edwards, Elwyn, Smith *et al.*, 2001; Entwistle, Watt, Bugge *et al.*, 2002; Haugli, Strand and Finset, 2004). They want to be involved in decisions which relate to lifestyle and self-management as well as to treatment (Caress, Beaver, Luker *et al.*, 2005), to the extent to which they feel comfortable, having first been presented with possible options (Weiss, 1986; Edwards, Elwyn, Smith *et al.*, 2001; Entwistle, Watt, Bugge *et al.*, 2002). Patients believe that the formation of a good relationship with their healthcare provider enables them to participate more in the consultation (McWilliam, Brown and Stewart, 2000; Caress, Luker, Woodcock *et al.*, 2002).

In summary, according to the literature, patients are able to conceptualise involvement. Their uses of the concept could be categorised as follows: *receipt of relevant information, ability to share their experiences and personal information about their condition, perception of having a good relationship with their healthcare provider*, and the *perception of having some control over decisions* (Entwistle, Watt, Bugge *et al.*, 2002).

The final perspective to consider is that of researchers and academics from other healthcare professions.

2.6.3 Researchers' and academics' from other healthcare professions understanding of patient involvement

For the purpose of this review, researchers' and academics' definitions of patient involvement have been grouped into 6 inter-related areas.

2.6.3.1 Exploration of patients cognitive and psychosocial factors

This includes the need to elicit patients' concerns (Entwistle, Watt, Bugge *et al.*, 2002); expectations and preferences (Charles, Gafni and Whelan, 1997; Street Jnr, 2003; Xu, 2004); values (Charles, Gafni and Whelan, 1999; Jordan, Ellis and Chambers, 2002) and beliefs about their problem (Charles, Whelan and Gafni, 1999; Elwyn, Edwards, Wensing *et al.*, 2001; Sanders and Skevington, 2004).

2.6.3.2 Elicitation of the patient's perspective

This includes items such as exploration of the patient's illness experience (Lepper, Martin and DiMatteo, 1995; Charles, Whelan and Gafni, 1999; Street Jnr, 2003; Sanders and Skevington, 2004), use of open questions (Martin, Jahng, Golin *et al.*, 2003) and the need to share in the identification of the presenting problem (Elwyn, Edwards, Wensing *et al.*, 2001; Sanders and Skevington, 2004; Takayama and Yamazaki, 2004).

2.6.3.3 Information giving

This section which received many endorsements, encompassed giving information about the condition (Lepper, Martin and DiMatteo, 1995; Charles, Gafni and Whelan, 1997; Elwyn, Edwards, Wensing *et al.*, 2001; Sanders and Skevington, 2004), about treatment options (Elwyn, Edwards, Wensing *et al.*, 2001; Jordan, Ellis and Chambers, 2002; Sanders and Skevington, 2004) and associated benefits and risks (Martin, DiMatteo and Lepper, 2001; Jordan, Ellis and Chambers, 2002). The professional also used the concept in relation to encouraging the patient to ask

questions and recognising the importance of answering such questions (Martin, Jahng, Golin *et al.*, 2003). Two studies (Martin, DiMatteo and Lepper, 2001; Jordan, Ellis and Chambers, 2002) suggested that patients should be involved in identifying their information needs so that the doctor could deliver an appropriate volume of information using methods which enable the patient to understand what has been said (Elwyn, Edwards, Wensing *et al.*, 2001). This point perhaps acts as an exemplar for patient involvement as it demonstrates respect for the patient as a person with unique preferences and needs, and it ensures that they correctly understand what has been said.

2.6.3.4. Patient participation

This recognises that involvement is only achieved if patients actively respond to the professionals' efforts to involve them. Therefore several studies have quantified involvement by the number of questions asked by the patient (Greenfield, Kaplan and Ware, 1985; Street and Voigt, 1997; Cegala, McClure, Marinelli *et al.*, 2000; Brown, Butow, Dunn *et al.*, 2001; Martin, Jahng, Golin *et al.*, 2003), number of controlling utterances used by patients (i.e. requests for clarification, giving opinions or asking questions), and the ratio of patient utterances to doctor utterances (Greenfield, Kaplan and Ware, 1985; Cegala, McClure, Marinelli *et al.*, 2000).

2.6.3.5. Professional-patient relationship

This group was the least endorsed and contains items regarding the need to use social talk to develop a relationship (Mead, Bower and Hann, 2002), or therapeutic alliance with the patient (Lepper, Martin and DiMatteo, 1995; Jordan, Ellis and Chambers, 2002). It recognises the importance of active listening (Lepper, Martin and DiMatteo, 1995; Martin, DiMatteo and Lepper, 2001) and accepting what the patient says (Lepper, Martin and DiMatteo, 1995; Charles, Gafni and Whelan, 1997).

2.6.3.6. Involvement in decisions

As patient involvement has almost become synonymous with decision-making in medicine (Elwyn, Edwards and Kinnersley, 1999; Ford, Schofield and Hope,

2003b), the largest group of behaviours refer to *involvement in decisions*. This includes presenting the patient with options (Charles, Whelan and Gafni, 1999; Elwyn, Edwards, Wensing *et al.*, 2001; Gillespie, Florin and Gillam, 2002), enabling the patient to express an opinion (Street Jnr, 2003), determining their preference for involvement (Elwyn, Edwards, Kinnersley *et al.*, 2000) and, if they wish, allowing the patient to be involved in the final decision (Charles, Gafni and Whelan, 1997; Street and Voigt, 1997; Elwyn, Edwards, Kinnersley *et al.*, 2000; Takayama and Yamazaki, 2004). There was also weak endorsement for involving the patient in discussions regarding the need for further appointments in order to review their decision (Elwyn, Edwards, Wensing *et al.*, 2001; Jordan, Ellis and Chambers, 2002).

In summary the six categories, listed above, all contribute towards the professional and patient developing a shared understanding of the cause and nature of the problem, its impact on the patient's life and social circumstances. Mutually acceptable management strategies can then be identified which are tailored to the patient's specific circumstances (Lepper, Martin and DiMatteo, 1995; Charles, Whelan and Gafni, 1999; Gillespie, Florin and Gillam, 2002; Laerum, Steine, Finckenhagen *et al.*, 2002; Sanders and Skevington, 2004; Takayama and Yamazaki, 2004).

This section has presented research evidence which suggests how physiotherapists, patients, researchers and academics define patient involvement. In the next section, common attributes from the above definitions are identified, which apply to the physiotherapeutic context.

2.7 Identification of the defining attributes

The following attributes were selected on the basis that they were associated with patients, academics, and physiotherapists use of the concept *patient involvement* and are also applicable in a physiotherapeutic context.

a) The physiotherapist engages the patient in the activity in which they are to be involved by sharing power or control. This may be eliciting the patient's opinions and views through engagement in open dialogue in order to arrive at a decision, or activating the patient in a task which requires their feedback e.g.

involving the patient in monitoring progress

b) The physiotherapist offers the patient decisional control and responsibility.

c) An egalitarian relationship must exist.

d) The patient must perceive the existence of a legitimate choice or reason to perform the activity (Caress, Luker, Woodcock *et al.*, 2002).

e) The patient must be willing to participate to some extent in the decision or activity.

f) The final outcome is mutually accepted and has taken account of the patient's concerns, beliefs, preferences and views.

g) Information exchange, both psychosocial and biomedical, takes place between the physiotherapist and the patient to achieve a shared understanding of the patient's problem, its effect on the patient's life and of the available management options.

2.8 Model Case

The model case is an example of patient involvement in physiotherapy which incorporates all the defining attributes. The model case should ideally be derived from the literature, however as literature on patient involvement in physiotherapy is sparse, Walker and Avant (2005) recommend the use of a proxy.

> *Paul is a builder who has been referred for physiotherapy for chronic low back pain. The physiotherapist, Susie, introduced herself, determined how Paul wished to be addressed and developed a rapport with Paul regarding the recent bad weather, in an attempt to remove any anxiety that Paul was experiencing, whilst he made himself comfortable. Susie then explained the purpose of the consultation, recognised Paul's expertise in how his back responds to different stimuli, having experienced pain for a number of years, and asked for Paul's contribution in formulating a treatment plan. Paul agreed to this. Susie asked Paul to tell her everything he could about his back problem, including what he believed caused it, what he thought the problem was, what effect it has had on his family, work and social life, and to indicate what he hoped the physiotherapy would do for him. Whilst he spoke, Susie listened attentively, and only made notes once he had finished. With Paul's consent, Susie examined Paul's back with*

regard to the quality and range of his movements and his muscle power. Susie discussed her findings with Paul, linking these with the beliefs that Paul had elicited about his back problem. Together they agreed on the nature of the problem. Susie then explained to Paul how physiotherapists use treatment goals to focus attention on meaningful and measurable aspects of the problem. She asked Paul to state what he considered to be his main concerns regarding his back problem, and together with the expectations that he mentioned earlier, Susie and Paul developed goals which reflected Paul's inability to sit longer than twenty minutes in his van, and his inability to manage a full day's work. Paul suggested he could record his progress in a diary, and thereby determine what activities enable or prevent him from achieving his goals. Being self-employed, Paul's main concern was that he could not afford to take time off work. When Susie listed the possible treatment options she discussed the evidence for a back school but recognising that Paul might be unable to attend for six, weekly classes, also discussed the possibility of home exercise and advice. Paul selected the latter option. Having checked that Paul understood the advice leaflet, was competent at the exercises, knew how they could be progressed and how to deal with a flare up, and had no further questions or concerns, Susie gave Paul the option of attending for a review or being discharged. Paul opted to see Susie in a month to ensure that the advice and exercises were helping.

The following bullet points relate to the attributes, as listed in section 2.7, and illustrate how each attribute has been incorporated into the above clinical example of patient involvement in physiotherapy:

a) The physiotherapist, Susie, elicited Paul's participation by: requesting his assistance in developing a treatment plan; explaining the purpose of treatment goals; and offering him the choice of treatment.

b) Susie asked Paul's permission prior to examining his back. He was actively involved in identifying the cause of his back problem, in selecting the mode of treatment and the treatment goals. He suggested how he could measure his progress and opted to review his treatment choice in a month.

c) Susie used small talk to develop a relationship with Paul. She demonstrated respect for him as an equal by letting him state his preferred name, acknowledging his expertise in managing his back pain, listening attentively and reflecting what he had said at a later point in the consultation. She also respected Paul's choices, and did not override them.

d) Whilst Paul was keen to have physiotherapy to improve his quality of life, he was also concerned about potential loss of earnings. Susie presented Paul with all the available treatment options and the evidence of benefit and risk, thus enabling him to choose a treatment modality which he felt would be of benefit but would not interfere with his work schedule.

e) Paul indicated his intention to participate when Susie first mentioned his role in the consultation, however his subsequent responses enabled Susie to gauge the degree of control that Paul was happy to assume. Had he not been comfortable with such autonomy, Susie would have had to resort to sharing the decision, or as a last resort, making the decision for Paul, based on what she knew of his values and preferences (Charles, Gafni and Whelan, 1999).

f) Both the treatment decision and the goals reflected Paul's concerns and expectations, and both Susie and Paul accepted the decisions that were made.

g) Paul was given the opportunity to divulge all the biomedical and psychosocial manifestations of his problem, including his concerns, expectations and beliefs. Susie presented her findings from the examination, in the context of what the consultant had suggested the problem might be, combined with what Paul had told her. She presented advice on how to manage the condition, and explained about treatment goals, and the evidence for the physiotherapeutic management of chronic low back pain. This ensured that both Susie and Paul understood each other's perspectives, and were thus able to reach a mutually acceptable conclusion to the consultation.

The next section presents hypothetical situations in which it is debatable whether the patient has been involved. Walker and Avant (2005) refer to these as borderline cases.

2.9 Borderline Cases

Patient participation and the professional's use of partnership-building involvement are mutually predictive (Street, Krupat, Bell *et al.*, 2003), and hence patients may ask questions or request treatments without being invited (attribute a), particularly if they perceive that the outcome of the consultation may not meet their expectations (Suchman, Markakis, Beckman *et al.*, 1997; Entwistle, Watt, Bugge *et al.*, 2002). In this case the physiotherapist may attempt to regain control either by ignoring the patient's requests or arguing with the patient if they are more persistent. Alternatively the physiotherapist may relinquish control. In these cases involvement has not occurred because decisional control has not been shared, and as the outcome represents only one perspective it may not be mutually acceptable. However, if the physiotherapist listens to the patient and elicits their views in a manner which suggests that the physiotherapist accepts their perspective and empathises with them, a relationship may be re-established allowing the physiotherapist and patient to arrive at a mutually acceptable outcome.

If the patient is denied decisional control (attribute b), involvement cannot occur. However, as Payton and Nelson (1996) discovered, some patients believed that by consenting to the physiotherapist's suggested treatment plan they had been involved. It could be argued that in seeking consent, the physiotherapist has engaged the patient in an activity and given them decisional control. However, the patient was unaware of any alternative treatments. Moreover, the physiotherapist's choice of treatment may not have reflected the patient's views and circumstances. On this basis, the patient was not given a legitimate choice, and was therefore not involved.

However, what if the patient had been informed of the different treatment options and associated risks and benefits, and chose to defer the decision to the physiotherapist? In this situation, the patient has participated (attribute f) in that they have decided that they would prefer an advocate, i.e. the physiotherapist, to make the decision on their behalf, and involvement has occurred. Charles, Gafni and Whelan (1999) recommend that in this situation the professional should make a decision which they believe reflects the patients' values, and social circumstances. The physiotherapist should explain the reasoning behind their decision to the

patient, together with any implications of that decision, so that the patient is fully informed before finally giving consent.

It has been suggested that patient involvement is related to the quality of the therapeutic relationship (attribute c) (Cape, 2000; Caress, Luker, Woodcock *et al.*, 2002; Jordan, Ellis and Chambers, 2002), thus if the relationship is poor it is intuitive to think that involvement may not occur.

Elwyn et al (2000) believe that patient involvement is *more* likely to occur when there is no clear preference between treatment options, and *less* likely to occur if the choice appears rhetorical or unimportant. However, the perception of equipoise or legitimacy (attribute d) depends on the individual's preferences, values and circumstances. Elwyn (2000) suggests that the professional is the one who should identify equipoise. However, in the author's experience, physiotherapists seldom offer choices because they do not perceive equipoise to exist. A large survey of 321 physiotherapists from two countries explored how physiotherapists selected their treatment techniques (Turner and Whitfield, 1999). Most physiotherapists relied on former education or experience to guide their treatment choice. As none of the response options in the survey mentioned patient preference it was not surprising that only one physiotherapist referred to the influence of the patient in a category entitled "other" options. As the model case demonstrated, there may be strong evidence in favour of one particular treatment method, but evidence does not allow for differences in the patient's unique needs (Ford, Schofield and Hope, 2002). A proportion of out-patients fail to complete their course of physiotherapy each year (Vasey, 1990). Vasey conducted a small survey (n=34) to explore the reasons that patients give for failing to complete their course of physiotherapy. Some patients had difficulty taking time off work (n=6), or had family problems (n=4), which prevented them from attending. If these patients had been involved to a greater extent in developing a treatment plan which did not encroach on work or family commitments, it is reasonable to think that these patients may have been more likely to complete their physiotherapy programme. Patients are possibly the better judges of what constitutes a legitimate treatment choice than the professional. Therefore, unless there are mitigating circumstances, it could be argued that the patient should be offered a choice of physiotherapy treatment; even if the alternative is to do

nothing because physiotherapy cannot meet that patient's needs!

If the patient is unwilling to participate (attribute e), involvement fails, as it lacks the required reciprosity (Cahill, 1996). Hence responses which fail to contribute towards a shared understanding, or mutually accepted outcome e.g. monosyllabic answers, would not be considered as participation.

Thornquist (1990) observed that the physiotherapists in her study, elicited information regarding the patient's symptoms, and the patient's lifestyle, but used the latter only as a means of developing a relationship with the patient. By failing to integrate these two aspects, the final outcome did not reflect the holistic needs of the patient, and the patient was therefore not fully involved. In a similar manner, the physiotherapist might elicit the patient's suggested goals or treatment modalities, as in the study by Arnetz *et al* (2004), but may use the negotiation process as a means of overruling the patient's contribution, so that the final outcome reflects only the physiotherapist's views. Whilst this outcome appears to be mutually acceptable, in reality, the patient may have acquiesced to the physiotherapists' views, believing objection to be futile. Thus in both of the above cases, unless it is evident that the final decision reflects the patient's views or perspective, involvement cannot be said to have occurred.

2.10 Related Cases

Related cases are similar concepts to the one being studied but do not contain the same attributes (Walker and Avant, 2005). Patient involvement is sometimes used interchangeably with the terms: patient centredness (Mead and Bower, 2000b; Ogden, Ambrose, Khadra *et al.*, 2002; Gillespie, Florin and Gillam, 2004); patient partnership (Coulter, 1997); patient participation (Cahill, 1996; Street and Voigt, 1997; Entwistle, Watt, Bugge *et al.*, 2002); collaboration (Waterworth and Luker, 1990); and mutuality (Briant and Freshwater, 1998). This section will briefly explore the relationship between each of the above terms and patient involvement.

2.10.1 Patient Centredness

Patient centredness is a widely used, but poorly understood concept (Stewart, 2001; Gillespie, Florin and Gillam, 2004) which lacks a universally accepted definition (Mead and Bower, 2000b). Fossum and Arborelius (2004) suggest that patient centredness is an attitude which emphasizes the importance of understanding the patient's ideas, concerns and expectations, and incorporating this information in the management of the patient's condition. A patient centred consultation is where these aspects of the consultation are operationalised. Hence patient involvement is a common component amongst the different definitions of patient centredness (Brown, Stewart, McCracken *et al.*, 1986; Michie, Miles and Weinman, 2003; Fossum and Arborelius, 2004; Gillespie, Florin and Gillam, 2004). This would suggest that the two concepts overlap. However, an observational study which explored the association between shared decision making (SDM), a method of involving patients in decisions (Elwyn, Edwards, Gwyn *et al.*, 1999), and patient centred communication (PCC) (Wensing, Elwyn, Edwards *et al.*, 2002), found the two concepts to be only weakly associated ($r=0.25$, $n=596$, $p<0.001$). In this study, patient centred communication, was measured by the mean of 4 items from a 12 item history taking and advice checklist (MAAS). Several authors have suggested that the concept of patient centredness is composed of more than 4 components (Brown, Stewart, McCracken *et al.*, 1986; Winefield, 1996; Mead and Bower, 2000b), each requiring a different outcome measure (Mead and Bower, 2000a). Therefore the method of measuring patient centred communication in Wensing's study may have lacked sensitivity and specificity. Hence the findings should be interpreted with caution. Further study is thus required to determine the relationship between patient involvement and patient centredness, although that is beyond the scope of this thesis.

2.10.2 Patient partnership, mutuality and collaboration

Partnership implies a relationship based on power sharing and negotiation (Gallant, Beaulieu and Carnevale, 2002). The relative proportions of power required to be held by each person in order to achieve a partnership is unclear. Some authors suggest that a partnership is based on equality to the point of being contractual, requiring total sharing of power, knowledge and responsibility (Weiss, 1986;

Feinberg, 1988; Cahill, 1996). *Mutuality* also describes a relationship in which power (Henson, 1997) and responsibility are equally distributed (Coulter, 1997). However, both parties work together to satisfy each others needs (Morgan, 2003) without requiring formal contracts (Henson, 1997). Similarly, *collaboration* can also be defined as working together in a partnership or alliance (Oxford University Press, 1989) although parties who collaborate do not require leadership (Henneman, Lee and Cohen, 1995). As it is the physiotherapists' responsibility to involve the patient in an activity (attribute a), and to ensure that the aims of the consultation are achieved, the physiotherapist must have more power than the patient. However some of this control is relinquished to enable the patient to participate in decision-making (attribute b). Hence the power differential between physiotherapist and patient may vary along a continuum from being physiotherapist-led at one extreme towards a partnership at the other, according to the nature of the activity being undertaken and the patient's desire to participate (McKinstry, 2000).

2.10.3 Patient Participation

Patient participation describes the patient's contribution towards the consultation in terms of asking questions, expressing opinions and concerns, participating in decisions and seeking clarification (Levinson and Roter, 1995; Brown, Butow, Dunn *et al.*, 2001; Street, Krupat, Bell *et al.*, 2003; Ward, Sundaramurthy, Lotstein *et al.*, 2003; Harrington, Noble and Newman, 2004). As was stated in section 2.9, this may be initiated by either the patient or the physiotherapist. An analysis of the concept of participation by Cahill (1996) identified similar attributes to those which define patient involvement, in this thesis, suggesting that the two concepts are closely related.

In summary, the term involvement, derives from the verb *to involve,* and refers to the action of one in a dyad or group who hands power to another for a specific purpose. By accepting this power, the patient becomes a participant, although, it is also possible for the patient to participate by asking questions, voicing opinions etc without first being invited. Evidence suggests that this may stimulate the physiotherapist to use more partnership building behaviours (Street, Krupat, Bell *et al.*, 2003), and thus by responding positively, the physiotherapist has agreed to share

control of the consultation. The terms partnership, mutuality and collaboration describe the relationship between two participants in which power has been distributed more evenly. This can only be achieved if the physiotherapist is willing to involve the patient.

2.11 Contrary Case

A contrary case is an exemplar of what the concept is not (Walker and Avant, 2005). In this example, a senior therapist has been teaching a student to examine a patient. Up to this point the conversation has been directed at the student.

The patient is sitting on the edge of the plinth still partly undressed when the senior physiotherapist (indicated by italic font) addresses the patient (indicated by bold print):

> *"You are very stiff between the shoulder blades. That's not very good, you know.*
>
> ***Oh?***
>
> *I think you really need some exercises to give you more mobility here. And, typical of whiplash, you have an area in the middle of the neck that moves more than it ought to, whereas your top vertebra is rigid. There is considerable stiffness in the neck muscles. I think you need help to increase the mobility at the top of the neck and all the way down between the shoulder blades.*
>
> ***I see***
>
> *You must do some exercises to improve your mobility between the shoulder blades and the upper part of the neck. What I shall do is give you a few exercises to do at home. You should practice stabilising the middle of your neck so that the muscles are better at protecting you…"*

The physiotherapist did not attempt to form a relationship with the patient. He made no attempt to engage the patient in any discussions regarding the feasibility of following a home exercise programme, and did not give the patient any decisional control by offering alternative treatment options. A legitimate choice for the patient may have been to offer some form of treatment to reduce the muscle spasm and pain associated with whiplash, prior to, or in conjunction with the exercise programme. Therefore the treatment plan was unlikely to be acceptable to the patient. Finally, the patient did not attempt to participate as her views were clearly not valued. As she was not asked any questions, information exchange could not have occurred.

2.12 Antecedents and consequences

2.12.1 Antecedents

Antecedents are events or occurrences which must take place prior to the patient being involved in their physiotherapy care (Walker and Avant, 2005).

Firstly, physiotherapists must believe that their patient's contribution is a necessary part of the consultation (Soanes, 2002). They must possess the necessary knowledge and skills to engage the patient in a more active role without causing anxiety or jeopardising the therapeutic relationship (Entwistle, Watt, Bugge *et al.*, 2002; Kurtz, 2002). They must recognise that each patient is an individual, and will thus wish to be involved to different extents and in different ways (McWilliam, Brown and Stewart, 2000).

Secondly, patients must be sufficiently well, comfortable and able to participate physically, intellectually and emotionally in the required activities or decisions (Entwistle, Watt, Bugge *et al.*, 2002).

Circumstances must be conducive to allow a frank exchange of opinions, hence there must be sufficient time and privacy (Caress, Luker, Woodcock *et al.*, 2002). Only one professional should be present in the consultation (Entwistle, Watt, Bugge *et al.*, 2002), and there should be no interruptions (Martin, DiMatteo and Lepper, 2001).

Both parties must reciprocate in order to maintain the relationship and create a shared understanding of the problem.

2.12.2 Consequences

Consequences are the outcomes of the concept (Walker and Avant, 2005).

Active patient involvement in the physiotherapy consultation has been associated with improved range of motion, strength and balance (Arnetz, Bergstrom, Franzen *et al.*, 2004) whilst poor participation in rehabilitation activities has been associated

with slower functional improvement and longer lengths of stay (Lenze, Munin, Quear *et al.*, 2004). As there have been no other studies to support these findings, this can only be considered as weak evidence.

A systematic review of patient participation in medical decision-making also failed to find any strong evidence of benefit (Guadagnoli and Ward, 1998), due to heterogeneity of the studies. A later, less rigorous review, concluded that there were significant improvements in perceptions of control over health, preferences for an active role in health care, recall of information, adherence to recommendations, attendance, and clinical outcomes (Harrington, Noble and Newman, 2004). However, this review does not appear to assess the quality of the studies. Therefore the findings of this review should be treated with caution, particularly in relation to variables such as adherence which are known to be difficult to measure reliably (Vermeire, Hearnshaw, Van Royen *et al.*, 2001).

2.13 Empirical referents

Empirical referents are observable phenomena which, by their presence, indicate that the patient is being involved in the consultation (Walker and Avant, 2005). The physiotherapist must employ a number of skills to facilitate and maintain the patient's participation and it is these which form the referents. Referents will be listed according to each of the attributes stated in section 2.7, although some referents may contribute towards more than one defining attribute.

2.13.1 The physiotherapist engages the patient in the activity in which they are to be involved.

As initial impressions can influence the patient's subsequent behaviour (Smith and Mackie, 2000), the physiotherapist should promote the patient's participation from the start of the consultation (Gafaranga and Britten, 2003). When describing the purpose of the consultation, the physiotherapist should explain that the patient's involvement is actively encouraged and elaborate on how that can be achieved (Payton, Nelson and St Clair Hobbs, 1998). The physiotherapist should invite the patient to ask questions (McCann and Weinman, 1996; Martin, DiMatteo and Lepper, 2001), use predominantly open questions (Martin, DiMatteo and Lepper,

2001; Entwistle, Watt, Bugge *et al.*, 2002; Maguire and Pitceathly, 2002), and active listening techniques such as appearing relaxed and unhurried (Entwistle, Watt, Bugge *et al.*, 2002), leaning forward whilst the patient is talking, nodding (Ambady, Koo, Rosenthal *et al.*, 2002), vocally encouraging the patient to continue, maintaining appropriate eye contact and refraining from unnecessary interruptions (Entwistle, Watt, Bugge *et al.*, 2002). By eliciting the patient's reason for seeking physiotherapy (agenda), the physiotherapist checks the patient's understanding of their condition, indicates a willingness to share control of the consultation (Emanuel and Emanuel, 1992) and ensures that all the patient's concerns have been addressed (Weiss, 1986; McKinley and Middleton, 1999; Entwistle, Watt, Bugge *et al.*, 2002). However, it may be necessary to ask a number of times if the patient has concerns that have not been addressed (Barry, Bradley, Britten *et al.*, 2000).

2.13.2 The physiotherapist offers the patient decisional control and responsibility

Within the context of the physiotherapy consultation, the patient may be involved in: collaborative problem solving (Jensen, Gwyer, Shepard *et al.*, 2000); setting goals (Payton and Nelson, 1996; Baker, Marshak, Rice *et al.*, 2001; Arnetz, Bergstrom, Franzen *et al.*, 2004); formulating the treatment plan (Payton and Nelson, 1996), deciding on the need for further appointments (Jordan, Ellis and Chambers, 2002), monitoring their condition (Watson, 1996) and evaluating outcome (Payton and Nelson, 1996). Patients are also given the responsibility to follow and progress treatment programmes (Lenze, Munin, Quear *et al.*, 2004). In each case, observation of physiotherapy consultations will indicate whether or not the patient was offered decisional control in these areas.

2.13.3 An egalitarian relationship must exist.

Rogers (1967) suggested that warmth, acceptance, genuineness and empathy are behaviours which underpin the therapeutic relationship, although those who feign caring are likely to be perceived as less helpful than those whose empathic expressions are heartfelt (Zoppi and Epstein, 2002). Warmth and acceptance may be conveyed through therapists' facial expressiveness, i.e. smiling, gaze, nodding and frowning (Ambady, Koo, Rosenthal *et al.*, 2002), their use of small talk (Takayama

and Yamazaki, 2004) and appropriate humour (Levinson, Roter, Mullooly *et al.*, 1997). There should be demonstration of respect, and concern for the patient as a person (Greco, Spike, Powell *et al.*, 2002), acknowledgement of the patient's expertise in their problem (Entwistle, Watt, Bugge *et al.*, 2002) and be allowed time to present their version of events (Waitzkin, 1984).

2.13.4 A legitimate choice must exist

The perception of what constitutes a legitimate choice is subjective; however the process of presenting options is objective. Hence, the physiotherapist should discuss the evidence and relate the associated benefits and risks to the patient's values, life and social circumstances (Edwards, Elwyn, Smith *et al.*, 2001) in order that the patient is then able to determine their preferred option (Martin, DiMatteo and Lepper, 2001; Kennedy and Rogers, 2002).

2.13.5 The patient must be willing to participate to some extent.

Patients vary in their desire to participate (McKinstry, 2000) and should not be expected to participate against their will (Weiss, 1986; Edwards, Elwyn, Smith *et al.*, 2001; Entwistle, Watt, Bugge *et al.*, 2002). Therefore some studies recommend explicit or implicit determination of the patient's decisional role preference (Towle and Godolphin, 1999; Elwyn, Edwards, Kinnersley *et al.*, 2000; Arora, 2003). The physiotherapist may explicitly question the patient regarding their willingness to participate. Alternatively, they may assess the patient's willingness to participate from their non verbal signals (Elwyn, Edwards, Kinnersley *et al.*, 2000). If the patient actively participates, the physiotherapist should respond by answering the patient's questions, or ceasing a line of questioning to listen to what the patient has to say. Alternatively, the patient may wish to defer control or decisional responsibility back towards the physiotherapist (Elwyn, Edwards, Kinnersley *et al.*, 2000; Ford, Schofield and Hope, 2003b). In this situation the physiotherapist should be observed resuming control or contributing to the decision. If so, the physiotherapist must also determine whether the patient wishes to accept or reject their suggestion after further consideration (Ford, Schofield and Hope, 2003b).

2.13.6 The final outcome is mutually accepted and has taken account of the patient's concerns, beliefs, preferences and views.

Discussions relating to treatment plans or goals should reflect relevant information that the patient has imparted regarding their concerns, beliefs, treatment preferences and views (Entwistle, Watt, Bugge *et al.*, 2002). Following discussions, the physiotherapist should check the acceptability of the explanation (Elwyn, Edwards, Kinnersley *et al.*, 2000; Sanders and Skevington, 2004; Takayama and Yamazaki, 2004), and, should ensure that the patient agrees with proposed treatment plans and goals particularly if they have been negotiated (Entwistle, Watt, Bugge *et al.*, 2002). Having invited the patient to participate in a decision, it is important that the professional does not later overrule the decision (Ford, Schofield and Hope, 2003b).

2.13.7 Information exchange occurs between the physiotherapist and the patient

The physiotherapist should use clearly *signposted* questions (i.e. indicate the reason for a line of questioning) to elicit the following information from the patient (Entwistle, Watt, Bugge *et al.*, 2002): beliefs regarding the cause of the problem (Arborelius and Bremberg, 1992; Britten, Stevenson, Barry *et al.*, 2000) and expectations of a cure (Entwistle, Watt, Bugge *et al.*, 2002); general expectations of the physiotherapy process (Lepper, Martin and DiMatteo, 1995; Takayama and Yamazaki, 2004; Xu, 2004); worries (Entwistle, Watt, Bugge *et al.*, 2002); effect of the problem on patients' recreational activities (Weiss, 1986; Caress, Luker, Woodcock *et al.*, 2002), relationship with family and friends (Silverman, Kurtz and Draper, 1998; Chartered Society of Physiotherapy, 2000), employment status and emotional well being (Silverman, Kurtz and Draper, 1998).

In return the physiotherapist should share their thoughts as part of the clinical reasoning process (Entwistle, Watt, Bugge *et al.*, 2002). They should identify gaps in the patient's knowledge (Martin, DiMatteo and Lepper, 2001; Jordan, Ellis and Chambers, 2002) and provide the necessary information regarding their condition, possible treatment alternatives (Thompson, Rudat, Staniszewska *et al.*, 2002; Caress, Beaver, Luker *et al.*, 2005) and health promotional advice (Weiss, 1986), preferably using the patient's explanatory language. Explanations should be clear and concise, since patients report that excessive or poor quality information inhibits

involvement (Ford, Schofield and Hope, 2003b). They should also be conveyed in a manner commensurate with the patient's cognitive abilities and learning style (Ford, Schofield and Hope, 2003b).

The physiotherapist must ensure that their interpretation of what the patient has said is accurate, by summarising (Maguire, Booth, Elliott *et al.*, 1996), and inviting correction where misunderstandings are apparent (Silverman, Kurtz and Draper, 1998). Equally, the physiotherapist should ensure that the patient has correctly understood what has been discussed (Elwyn, Edwards, Kinnersley *et al.*, 2000).

2.14 Conclusion

In this chapter, a review of the literature relating to physiotherapists', patients' and other health professionals' use of the concept patient involvement led to the identification of seven attributes associated with patient involvement in physiotherapy, and their associated empirical referents. Within physiotherapy, the scope for involvement extends beyond solely achieving a mutually acceptable treatment plan, to include goal setting, outcome evaluation and involvement in the treatment programme. Patient involvement in physiotherapy is therefore an important, and yet under-researched concept. The identification of empirical referents will enable instruments to be developed which will test the validity of the concept.

The outcome of this analysis is limited by the paucity of research which relates the concept to physiotherapy practice, the overall low quality of the available evidence, and by ambiguity within the literature surrounding the use of the terms described in section 2.10. The methodology ensured that as wide a definition as possible was developed, thereby reducing the possibility of bias, whilst the inclusion of model, borderline and contrary cases, provide a degree of internal validation to the attributes. As this literature search was limited to English articles published before 2005, it is possible that new evidence may be published in the future to challenge this definition.

The next chapter will attempt to identify whether physiotherapists' attitudes, knowledge and skills are likely to have an influence on the extent to which physiotherapists' involve their patients in their physiotherapeutic care.

Chapter 3:

Factors which may influence physiotherapists' involvement of patients: Attitudes, Knowledge and Skill.

This chapter critically examines the literature for evidence that a physiotherapist's attitudes, knowledge or skill may be related to the extent to which they involve their patients in the consultation. It also examines the possible influence of demographic variables, such as: the physiotherapists' gender; age; experience; specialist area; perception of competence as a communicator; and receipt of additional communication training; on each factor.

3.1 Introduction

An individual's communication style is believed to reflect their knowledge, skills, attitudes, beliefs and emotional responses (Miller, 1990; Parle, Maguire and Heaven, 1997; Novack, 2000). Knowledge, attitude and skill is a frequently cited triumvirate (Eraut, 1994, p 61) in the field of education (Gendrop and Eisenhauer, 1996; Hershenson, 2001). However, the ability of the factors to predict patient involvement in physiotherapy has not been investigated.

One RCT investigated the effects of a communication skills training course for medical residents on their attitude, knowledge and skill (Smith, Lyles, Mettler *et al.*, 1998). It was claimed that the residents' attitude, knowledge and skills improved following the 1 month interviewing training placement compared to an untrained control group. Residents reported significantly increased self efficacy in psychological sensitivity as a result of their training. Whilst they elicited significantly more psychosocial information than the control group, the residents struggled to apply these skills during motivational interviews, such as smoking cessation, where the success of the consultation may depend upon the identification of underlying psychosocial problems. No data was provided to indicate the magnitude of change in knowledge. In addition, attitudinal and interview data were not available for all participants, thereby reducing the power in a study which was

already underpowered owing to the small numbers allocated to each arm (n=31 intervention and 32 controls).

In summary, the relationship between attitudes, knowledge and skill have only been demonstrated in educational models, although the model has been proposed for use in teaching communication skills to healthcare professionals (Kurtz, Silverman and Draper, 1998). The relationship between the three domains and patient involvement in physiotherapy remains hypothetical, due to a lack of research to support or refute the model. In theory it seems intuitive that physiotherapists will encourage their patients' to be involved in their physiotherapy care if they know how to do so, are able to apply the skills in practice and believe that it is beneficial and ethical to do so.

Whilst attitudes, knowledge and skills are closely interlinked and can be difficult to disentangle, this chapter will explore the relationship between patient involvement and attitudes, knowledge and skill individually.

3.2 Attitudes towards patient involvement in physiotherapy:

An attitude is the outcome of an individual's psychological processes with respect to some aspect of the world which he distinguishes from other aspects, which can be inferred from his verbal and non verbal behaviour (Newcomb, 1966). Attitudes have three component parts: *cognitions*, which are composed of beliefs (McManus, 1992) and values (Hayes, 1994); *affect*, which is an emotional reaction elicited when the attitude is not consistent with the events of the world (Boninger, Krosnick and Berent, 1995); and *conation*; which is the intention to behave in a certain manner (Ajzen, 1988). Each of these components has been suggested to influence behaviour (Zimbardo and Ebbeson, 1970; Ajzen, 1988).

Jenkins and Fallowfield (2002) conducted a trial to investigate the effect of a 3 day training course designed to address the cognitive, affective and behavioural components of communication. Doctors' who attended the course demonstrated significantly improved attitudes and beliefs towards psychosocial communication which were reflected in the doctor's use of empathic expressions, use of psychosocial questions, recognition of patient cues and open questioning

techniques. The authors concluded that by addressing cognitive, affective and behavioural components of communication during training, doctors' attitudes and communication style can be enhanced. Whilst the authors alluded to a relationship between attitudes, beliefs and behaviours this relationship was not tested, and is therefore only hypothetical.

The next section will explore whether any evidence exists to suggest that physiotherapists' attitudes are related to their efforts to involve patients in the consultation.

3.2.1 Are physiotherapists' attitudes related to their ability to involve patients in the consultation?

As mentioned in section 2.6.1., Baker (2001) conducted a survey in which 95% of the 21 participating physiotherapists believed that they sought to involve patients in setting treatment goals. However, only 6 of the 12 survey items truly elicited physiotherapists' beliefs about the extent to which patients should be involved. Other items determined physiotherapists' opinions about where they learned to involve patients; how easy they found it to establish a rapport and communicate with older people; whether they had sufficient time to conduct an examination; and whether they considered diagnostic skill development to be important. As responses were summed, the resultant score cannot be considered a valid indication of the physiotherapists' attitude towards patient participation due to the number of confounding items. In another part of the study, Baker and colleagues recorded physiotherapists' initial examinations and quantified the degree to which they used participation methods to elicit patients' involvement in setting goals. The relationship between physiotherapists' attitude and their participation method score was not tested. Only 6 physiotherapists collaborated with patients in setting goals. Hence, in this study, attitude may not have been predictive of behaviour.

Similarly, a qualitative study of 9 physiotherapists' and 10 patients' beliefs regarding important characteristics of Swedish physiotherapy sessions (Wottrich, Stenstrom, Engardt *et al.*, 2004), suggested that the physiotherapists valued patient involvement in decision-making. Again there was little evidence to support this in

practice. The authors suggested that the physiotherapists wanted to involve their patients but did not *know* how to do so.

The numbers of physiotherapists in both of the above studies were too small to enable the results to be generalised. In summary, it seems no large scale studies of NHS physiotherapists' attitudes towards patient involvement have been published. No robust evidence could be found to suggest or refute a possible relationship between attitude and the extent to which physiotherapists involve their patients in practice.

3.2.2 Patients' attitudes towards involvement in physiotherapy

A secondary aim of this thesis was to determine patients' attitudes towards involvement in physiotherapy consultations. Two American studies investigated patients' attitudes towards involvement in their physiotherapy consultations. Payton et al (Payton and Nelson, 1996; Payton, Nelson and St Clair Hobbs, 1998) used semi-structured interviews to elicit patients' beliefs about their experiences of physiotherapy and their relationship with their physiotherapist. In both studies, the majority of patients reported a desire for more involvement in setting goals and formulating treatment plans.

In summary, patients in these studies appeared to want more involvement in their care. As these studies were conducted in America, where healthcare is supported by private insurance, the results may not be generalisable to reflect the attitudes of those who use a nationally funded healthcare system such as the NHS.

Sections 3.2.1 and 3.2.2 have concluded that evidence of NHS physiotherapists' and patients' attitudes towards patient involvement in physiotherapy consultations is lacking. This is an area worthy of study, in order to determine whether patients and physiotherapists share similar beliefs, and as a means of understanding physiotherapists' beliefs about their role and that of the patient. In order to conduct such a study, a relevant, valid and reliable measure of attitude towards patient involvement is required. It should relate to the physiotherapy consultation, and be suitable for completion by both physiotherapists and patients so that comparisons

can be made.
The next section will determine whether such an instrument exists.

3.2.3 Review of instruments suited to measure both patients' and physiotherapists' attitudes towards involvement in physiotherapy

A literature search was undertaken, using the strategies described in section 2.5, to find studies which used matched surveys to elicit patient and physiotherapists' attitudes towards patient involvement, so that comparisons could be made between the two.

As mentioned above, Baker et al (2001) used a survey to elicit physiotherapists' opinions regarding patient participation in physiotherapy goal-setting. Patients' attitudes towards patient involvement were not sought. The physiotherapist's survey was not tested for validity or reliability, and was not designed for patients' use. The survey failed to explore patient involvement in its entirety and incorporated a number of unrelated items. Therefore it was unsuitable for use as a research tool.
The 10 item "active involvement" scale (Adamson, Sinclair - Legge, Cusick *et al.*, 1994) was developed from a Swedish physiotherapy questionnaire designed to measure professional beliefs on what makes therapy work (Stenmar and Nordholm, 1994), and validated for use by an Australian Occupational Therapy population. Despite its title, this scale focuses on the therapist – client interaction and excludes any mention of involvement in decisions, information exchange or elicitation of the patient's perspective.

As no other measures of physiotherapist – patient attitude could be found, the search was widened to include attitude instruments designed for use by other healthcare professionals and their patients.

Patient - specific instruments, (e.g. "Comrade" (Edwards, Elwyn, Hood *et al.*, 2003), and the "Facilitation of patient involvement in care" scale (Martin, DiMatteo and Lepper, 2001)), measured patients' beliefs regarding their doctor's competence at involving them in the consultation, rather than determining the patients' attitudes regarding involvement in their care.

Most attitudinal instruments for use by health professionals, relate to doctor-patient beliefs regarding the concept of patient-centredness (de Monchy, Richardson, Brown *et al.*, 1988; Krupat, Putnam and Yeager, 1996; Ogden, Ambrose, Khadra *et al.*, 2002). These instruments were unsuitable because they either: incorporated a large number of items which were unrelated to patient involvement; or they were not readily transferable to physiotherapeutic practice e.g. made reference to issuing prescriptions or ordering tests. However, one instrument which appeared to measure patients' attitudes towards a number of the defining attributes of patient involvement in physiotherapy, and could feasibly be adapted to measure both physiotherapists' and patients' attitudes towards patient involvement, were questions 3 to 5 of the pre-consultation "Patient preferences for patient centredness questionnaire" (Little, Everitt, Williamson *et al.*, 2001), (Appendix 1). Unlike other measures of patient-centredness, mentioned above, this instrument focussed more specifically on items related to patient involvement. Thus this instrument was adapted to form the *Physiotherapists Attitude towards patient involvement* (PAPI-A) and *Patient's Attitude towards Involvement in Physiotherapy* (PAPI-B) instruments, which are described in chapter 4.

3.2.4 Physiotherapists' and patients' attitudes towards patient involvement and the extent to which attitudes influence physiotherapists' involvement behaviour: Conclusions

Evidence suggests that people's values, beliefs, emotions and intentions are conveyed through their non-verbal and verbal behaviour. It can be seen from the list of empirical referents in Chapter 2, that patient involvement depends upon the use of subtle verbal and non verbal behaviours to initiate and sustain the patient's participation. Hence, physiotherapists' attitudes may potentially influence the extent to which they involve patients, or the extent to which the patient feels that their contribution is welcome. Equally, patient's attitudes also have the potential to influence the degree to which they are willing to participate in the consultation. No large scale studies have been conducted to determine NHS physiotherapists' or patients' attitudes towards involvement in physiotherapy, and accordingly there are no valid and reliable instruments available to capture this information.

3.3 Knowledge of patient involvement in physiotherapy:

Knowledge can be described as that which we believe or hold to be true (Gustavsson, 2004). People conceptualise the world according to differing sets of values and competing representations (Dwyer and Limb, 2001). Hence, in the absence of an accepted definition for patient involvement in a physiotherapeutic context, each physiotherapist's understanding of what constitutes patient involvement may potentially differ. Knowledge, on its own, does not alter practice, but it provides the motivation, and the tools to effect behaviour change (Kurtz, 2002). The next two sections will explore the literature to determine whether any evidence exists to suggest the extent to which physiotherapists understand patient involvement, and evidence of whether such knowledge influences practice.

3.3.1 Physiotherapists' knowledge of patient involvement strategies

No published studies have specifically investigated physiotherapists' knowledge of patient involvement. However, the discrepancy between physiotherapists' beliefs regarding their attempts to involve patients in goal setting and the extent to which they collaborated with their patients in practice as reported in Baker's study (2001) in section 3.2.1, might infer that physiotherapists' understanding of what constitutes effective involvement is poor. As proposed in section 2.9 of this thesis, the physiotherapists in the above study may have equated involvement with obtaining the patient's consent to the goals that they had proposed. Certainly, a comment elicited during a small qualitative study of ten clinical tutor physiotherapists (Gyllensten, Gard, Salford *et al.*, 1999) *("… I ought to dare to demand a little more from the patients themselves" (4) (page 100))* revealed the physiotherapist's belief that participation could be demanded by wielding power, rather than by inviting the patient to share control of the consultation. Wottrich and colleagues (2004) arrived at a similar conclusion following their qualitative study of physiotherapists' beliefs about the characteristics of physiotherapy sessions. This weak evidence certainly suggests that patient involvement is not universally understood.

A survey of 527 Australian health science graduates, including physiotherapists, revealed that respondents felt ill-prepared to communicate with patients (Adamson, Harris and Hunt, 1997), although, as communication is a highly complex, dynamic task which is constantly moderated in response to non-verbal cues and verbal

dialogue (Silverman, Kurtz and Draper, 1998), such knowledge is more likely to develop with experience (Eraut, 1994). A qualitative study by Dahlgren (1998) provides weak support for this theory. It compared the ways in which physiotherapy students in their second year, final year and 18 months post-qualification related to their patients. The findings suggest that the students' relationships were initially authoritative and technical, but as they gained clinical experience their attention focussed more on meeting the patient's needs. They learnt how to integrate information elicited from the patient into their clinical reasoning, such that after 18 months of graduate clinical experience, the predominant relationship was one of mutuality. However, as this research was based on the perceptions of two small cohorts of physiotherapists from the same University, rather than observations of actual practice, these findings lack generalisability, and may be subject to bias.

A contrary finding was reported by Jensen and colleagues (Jensen, Shepard and Hack, 1990) who compared the practice of novice, experienced and expert physiotherapists. They suggested that it is expertise, rather than experience, which leads the physiotherapist to recognise the patient as an equal, and to seek their collaboration in the consultation, thus inferring that only a few physiotherapists possess such insight. Thornquist (2001) also conducted a number of in-depth observational studies to understand physiotherapists' diagnostic processes. She concluded that the therapists in her study were ignorant about the influence that they had over the patients' responses and were unaware of the assumptions that they made in forming a diagnosis. As patient involvement is based on an understanding of the reciprocal nature of therapist-patient interactions, one might infer that these physiotherapists would not know how to effectively involve their patients in the consultations, as demonstrated by their lack of understanding of the patient's problems when making diagnostic decisions.

In summary, no studies have been conducted to determine the extent of physiotherapists' understanding of what constitutes effective practice in patient involvement. Weak evidence from a number of sources outside the UK suggest that physiotherapists may not know how to communicate effectively. It is important to have insight into the knowledge possessed by physiotherapists about patient involvement in order to understand what informs their behaviour, to understand how

they interpret the information that they receive in a clinical encounter (Higgs, Andresen and Fish, 2004), and to identify areas of knowledge that are deficient or inaccurate. Teichler (1999) also suggests that knowing about knowledge helps to identify norms, values and assumptions underpinning practice. Such information is important if we are to determine whether a need exists to develop physiotherapists' consultation behaviour.

3.3.2. Is knowledge of patient involvement associated with performance?

One high quality randomised controlled trial (n=160) (Fallowfield, Jenkins, Farewell *et al.,* 2002) examined the effect of providing written feedback on performance compared with written feedback and training. The group who received training demonstrated significant changes in performance 3 months after the course, whereas there were no effects recorded as a result of feedback alone.

In order to involve the patient, physiotherapists require knowledge to reason why a particular skill was appropriate, and to predict and apportion meaning to the resultant action (Gustavsson, 2004). However, whilst evidence suggests that a lack of knowledge may be related to a lack of skill (Fallowfield and Jenkins, 1999), there is less evidence available to suggest the converse. A small correlational study of 47 GP-trainees suggested that a knowledge test of skills is predictive of performance in an objective structured clinical examination (OSCE), provided that the content of the knowledge test of skills matches the clinical skills under study (Kramer, Jansen, Zuithoff *et al.*, 2002).

Humphris (2002) found a small but significant relationship between knowledge and performance when tested immediately after training. However, several notable researchers have found that knowledge of communication methods does not transfer easily into clinical practice (Winefield and Chur-Hansen, 2000; Razavi, Merckaert, Marchal *et al.,* 2003). It has been suggested that the poor correlation between the two can be attributed to either poor teaching methods (Fallowfield, Saul and Gilligan, 2001), or the use of tools which test core knowledge but fail to test the application of that knowledge in a clinical context (Epstein and Hundert, 2002).
In summary, whilst increased knowledge may not produce a significant change in

patient involvement behaviour, it may inform the physiotherapist of what they need to observe, what interpretations to link to observations and what words and actions to use when conveying this to patients (Maudsley and Strivens, 2000). In order to determine physiotherapists' understanding of patient involvement it is necessary to find an instrument which is suited to the purpose. Hence the next section will examine available instruments to determine whether a valid and reliable instrument exists which is suitable for use in a physiotherapy context.

3.3.3. Review of instruments suitable to assess physiotherapists' knowledge of effective communication strategies

Physiotherapists' knowledge of patient involvement is composed of *propositional knowledge*, which can be transcribed in a written form and consciously communicated (Eraut, 2000) and *craft or practical knowledge* (Oakeshott, 1962). *Practical knowledge* is harder to measure as it is formed through the conscious application of propositional knowledge in practical situations. It is refined by a process of reflection (Schön, 1991), and unconsciously supplemented by *tacit knowledge*. *Tacit knowledge* is that which we know but cannot tell (Polanyi, 1967), such as the meaning associated with certain tones of voice or facial expressions (Reber, 1989). The whole process is moderated by the individual's beliefs about their role and that of the patient (Lloyd, Mayes, Manstead *et al.*, 1984), the influences of that person's life experiences (Higgs, Andresen and Fish, 2004), and the influence of others who that individual may use as role models (Bandura, 1977). Hence Eraut (1994, p 15) suggests that "people do not know what they know".

Dahlgren et al (2004), recommend the use of methods which are contextually related to routine clinical practice to enable relevant knowledge to be easily retrieved. Such methods might involve visual prompts which will activate appropriate subconscious schema thus enabling the physiotherapists to access knowledge which has been acquired and stored by vicarious means.

Traditionally, health professionals' knowledge of effective communication strategies has been assessed by means of pre and post-treatment interviews (Anderson, DeVellis and DeVellis, 1987; Swenson, Zettler and Lo, 2006), surveys (Felsher and

Ross, 1994; Langworthy and Smink, 2000) and multiple-choice tests (Smith, Lyles, Mettler *et al.*, 1998; Eagles, Calder, Nicoll *et al.*, 2001). All of these methods failed to elicit the tacit component of knowledge as they lacked the necessary visual and auditory clues (Eraut, 2000).

Video vignettes have been used to explore patients' ability to recognise effective practice in the management of a sore throat (Willson and McNamara, 1982). They have also been used to illustrate different consultation styles in order to determine patients preference for involvement (Dowsett, Saul, Butow *et al.*, 2000; McKinstry, 2000), to assess competence in nursing (Watson, Stimpson, Topping *et al.*, 2002) and variation in physiotherapy assessors' judgement of competence (Cross, Hicks and Barwell, 2001).

Vignettes which portray excerpts of a physiotherapy consultation may offer an effective way of eliciting physiotherapists' propositional knowledge, whilst the visual and auditory cues which accompany a video-recording should enable the physiotherapists to recruit their tacit knowledge to assist in their judgement of the situation.

In conclusion, the extent of NHS physiotherapists' knowledge of patient involvement is hitherto unexplored; hence there are no valid or reliable instruments available to quantify physiotherapists' knowledge of this subject. Video vignettes appear to be a promising method of eliciting the different forms of knowledge. The development of the scenarios and an evaluation sheet will be described in the next chapter.

3.4 Skills relating to patient involvement

Skills are the hierarchical organisation of motor programmes, sometimes known as schema (Annett, 1989). They are goal-focussed and enable a behaviour such as the involvement of patients to be performed efficiently, but they must be acquired through training and practice (Annett, 1989). Skill is thus the practical application of knowledge (Read, Alexander, Baugh *et al.*, 1960).

3.4.1 Are physiotherapists skilled at involving patients in the consultation?

As noted in sections 2.6.1 and 3.2.1, Baker (2001) recorded 22 physiotherapists in consultation with 73 patients, and found that certain skills such as sharing assessment findings in a manner which the patient could understand, and elicitation of the patient's concerns were used much more frequently than skills such as collaborative goal setting. Only 6 physiotherapists were observed collaborating with the patient to identify treatment goals. Other skills were lacking. The physiotherapists did not routinely inform their patients of the nature of the consultation or their role in sharing decisions and how this might be achieved. In addition, they were poor at confirming patient's concerns and determining the patient's priorities.

Parry (2004) conducted a good quality observational study of 10 physiotherapists and 21 stroke patients using conversational analytical techniques to explore communication during goal-setting in 74 physiotherapy treatment sessions. Treatment goals should reflect both the patient's and physiotherapist's aspirations (Wade, 1999b), but only one of the eight goal setting episodes, identified in this study, met this criteria. Parry concluded that the physiotherapists needed to develop skills to enable them to elicit patients' views, to achieve a mutual understanding of the patient's limitations and potential, and to develop goals which are mutually acceptable.

As suggested in chapter 2, patient involvement requires the existence of an egalitarian relationship, and hence physiotherapists require the skills to enable them to share power with their patients. A small observational study of 5 physiotherapists from 3 Finnish hospitals with 7 in-patients (Talvitie, 2000) demonstrated that, within their sample, physiotherapists' utterances dominated the consultation. They appeared to ask many closed questions, and used directive responses to motivate patients to progress with set activities. This echoed a finding almost ten years earlier by Sluijs (1991) who observed that Dutch physiotherapists rarely gave patients the opportunity to present their perception of the problem, and few physiotherapists explored the psychosocial manifestations of the problem. A later study explored trends in patient education advice given by 21 therapists to 132

patients (Kerssens, Sluijs, Verhaak *et al.*, 1999). Physiotherapists readily imparted advice although the content rarely varied between patients. This suggested that patients' individual informational needs were not being elicited, and advice was not tailored to individual circumstances.

An in-depth observational study (Thornquist, 1994) of two Norwegian physiotherapist – patient consultations demonstrated that whilst they elicited a certain amount of personal information, this information was not integrated with the biomedical frame of reference. Hence the treatment plan failed to address patient's concerns and beliefs. There has been much discussion regarding the value of biopsychosocial treatment approaches, which elicit patients' beliefs and concerns, alongside their physical symptoms, in the management of chronic pain (Waddell, 1989; Stroud, Thorn, Jensen *et al.*, 2000; Truchon, 2001) and yet there is little evidence to determine the extent to which this approach has been embraced by UK physiotherapists. A large scale survey of physiotherapists' treatment preferences for low back pain (Foster, Thompson, Baxter *et al.*, 1999) found that biomedical treatment techniques were favoured, with relatively little mention of measures to address behavioural maladaption.

In summary, there is a dearth of good quality evidence to ascertain whether NHS physiotherapists possess the necessary skills to involve patients in their care. Evidence from America, Holland and Scandinavia suggests that some physiotherapists dominate the consultation, and, by focussing on the biomedical aspects of the condition, disregard the patient's perspective of their problem. Information exchange tends to be a unidirectional process from physiotherapist to patient.

In order to explore whether physiotherapists are sufficiently skilled to involve their patients it is necessary to use a measurement tool which will determine the skills required to involve a patient effectively in a physiotherapeutic context. The next section will examine existing instruments to determine whether such a tool exists.

3.4.2 Review of existing patient involvement evaluation instruments

Instruments which assess communication competence are broadly divided into two groups: *molecular* and *molar* (Caris-Verhallen, Timmermans and van Dulmen, 2004). Molecular methods analyse interactions utterance by utterance, whereas molar tools analyse larger units of activity or broader skills, such as listening or demonstrations of empathy.

Molecular instruments, such as the *Roter Interaction Analysis System* (Roter and Larson, 2002), the *Medical Interaction Process system* (MIPS) (Ford, Hall, Ratcliffe *et al.*, 2000), or other conversational analytic techniques (Sacks and Jefferson, 1995) quantify the verbal and paralingual aspects of speech. However they require extensive training, are time consuming since all utterances have to be coded, and omit reference to non verbal behaviours. It is also possible to lose the overall impact of the consultation, and thus view it through researchers eyes rather than as the patient might experience it. Hence a molar instrument was considered more suitable to determine physiotherapists' competence.

The "*Participation Method Assessment Instrument*"(PMAI) is a 21 item instrument, adapted from the "*Patient Participation Evaluation Form*" (Northen, Rust, Nelson *et al.*, 1995), a tool for Occupational Therapists, and was designed to assess the involvement of physiotherapy patients in goal setting (Baker, Marshak, Rice *et al.*, 2001). The instrument measures the following physiotherapist behaviours: a) preparation (i.e. informing the patient about: the service; procedures used; possible treatment outcomes; means by which he can participate; and imparting assessment findings), b) clarification of concerns and c) goal setting. However, no reference is made to the development of an egalitarian relationship. Item 17 determines whether the physiotherapist collaborates with patient and carers to establish goals, yet items 19 to 21 refers to the physiotherapist explaining additional goals which are perceived necessary by the physiotherapist, and "stating" the final selection of goals to the patient. These final items almost imply that the physiotherapist has the final decisional control.

Baker et al modified the score system by removing a "*not applicable"* category to

create a two point score system which assessed whether items were attempted or not. Therefore, if physiotherapists omitted items in order to respond to patient's questions or concerns, they would have received a lower final score. However, it has been suggested that by taking a reflexive approach to the consultation, the patient is involved far more than when the professional adheres rigidly to a pre-set format (Fossum and Arborelius, 2004). As the instrument was weighted towards goal setting, important items associated with involvement, such as the need to develop a relationship and negotiate a mutually acceptable outcome were omitted. Hence, it was considered to lack face validity and was thus excluded.

A systematic review of instruments designed to measure patient involvement has been conducted (Elwyn, Edwards, Mowle *et al.*, 2001). Eight instruments met the inclusion criteria however none of the instruments adequately assessed patient involvement in decision-making. As a result the OPTION tool (Elwyn, Edwards, Wensing *et al.*, 2002), was developed to measure patient involvement in decision-making in the context of general practice consultations. This tool has good validity and reliability however it has not been validated for use in physiotherapy consultations. A revised version of the tool (Elwyn, Hutchings, Edwards *et al.*, 2005) measures the quality of each behaviour. A weakness of this tool is the assumption that patients have a preferred approach to receive information (item 3), and that they are aware of their preferred level of involvement in decisions (item 10). It is difficult for a patient with no prior experience or understanding of involvement in decision making to express an opinion (Robinson and Thomson, 2001). It also infers that once a patient has stated a preference it is presumed to remain stable, although it has been suggested that this is not always the case (Butow, Maclean, Dunn *et al.*, 1997; Charles, Gafni and Whelan, 1999). The OPTION tool was designed to evaluate audio-taped consultations, therefore it fails to acknowledge the importance of non verbal communication. Non verbal communication has been recognised as an important factor in establishing emotional support, for clarification of treatment instruction in physiotherapy consultations (Perry, 1975), and by enabling the receiver to assign true meaning to the verbal utterances that they hear (Argyle, 1972). In this way, the sender can ensure that if the receiver does not detect the paralingual or contextual clues which denote sarcasm or irony, an accompanying smile or wink will reinforce the message. Consequently, analysis of

audio-recordings result in the loss of many augmentative non verbal gestures, and interpretation of behaviour is less reliable than with direct observation or analysis of videotaped consultations.

Jensen et al.(1990) advocated video-recording methods for analysis of touch, posture and eye contact in the physiotherapeutic intervention. This method also enables capture of behavioural data which occurs outside our conscious awareness (Wilkinson, 1995). Video recordings are accepted as a reliable and valid method of assessing communication skills (Ram, Grol, Rethans *et al.*, 1999). They are less intrusive than real-time observation, and there is the flexibility of being able to erase a video-recording if the subject revokes consent. Whilst behaviour may initially alter, the use of a remotely operated camera over a number of consultations helps the physiotherapist to become accustomed to its presence. Video recording has the advantage that the consultation can be viewed repeatedly and at the researcher's own pace (Coolican, 2004).

It appears that no suitable instrument exists to measure patient involvement in a physiotherapy context, which is designed to assess both verbal and non-verbal behaviours, and incorporates the attributes listed in chapter 2. As a result, an instrument is required which fulfils the above criteria. The following chapter describes the development and testing of the *Patient Involvement in physiotherapy Evaluation (PIE)* tool.

3.5 Possible influence of demographic factors on physiotherapists' attitudes, knowledge and skills.

This chapter has established so far, that weak evidence exists to suggest that health professionals' attitudes, knowledge and skills may influence their practice of involving patients in the consultation. However, it has also identified a lack of reliable evidence to support or refute the existence of such relationships in relation to physiotherapy. In addition to addressing this gap in knowledge, this thesis also aims to explore whether variations in physiotherapists' attitudes, knowledge and skills can be predicted by certain demographic variables. By eliciting this information it may be possible to target resources to meet specific need. This section will examine the evidence to identify which variables may influence physiotherapists' attitudes, knowledge and skills.

3.5.1 Age

As the Universities devote more curricular time to teaching communication skills (Ellis, 1985; Frederikson and Bull, 1992), younger physiotherapists might be expected to demonstrate stronger attitudes towards patient involvement and have a better understanding of how this might be achieved. However this hypothesis has not been supported in studies of health professional's communication skills (Maguire, Booth, Elliott *et al.*, 1996; Flocke, Miller and Crabtree, 2002).

Evidence is equivocal with regard to patients' age being a predictor of their attitude towards involvement in a consultation. Whilst one study found patients aged over 60 to prefer a more directed consultation (McKinstry, 2000), other studies have noted that younger patients appeared to prefer a more active role in the consultation, although this trend was not significant (Bruera, Sweeney, Calder *et al.*, 2001; Street, Krupat, Bell *et al.*, 2003).

3.5.2 Experience

3.5.2.1 Experience and Attitudes

Positive attitudes towards patient involvement have been associated with 6 or more years experience (Adamson, Sinclair - Legge, Cusick *et al.*, 1994), whilst 11 – 20

years of experience were associated with poorer attitudes towards patient centredness (Krupat, Rosenkranz, Yeager *et al.*, 2000), Neither relationship was able to be reproduced with different samples (Stenmar and Nordholm, 1994; Krupat, Bell, Kravitz *et al.*, 2001).

3.5.2.2 Experience and Knowledge

Jensen and colleagues (Jensen, Gwyer, Shepard *et al.*, 2000; Resnik and Jensen, 2003) conducted a number of studies to determine the factors which distinguished experienced physiotherapists from those considered to be experts. Experts used reflection and collaboration with colleagues to develop a deeper knowledge base than their peers, and were motivated to further enhance their knowledge. Whereas, all physiotherapists initially learn from encounters with different patients and conditions, learning for some appears to slow down or become less effective with time, whilst the expert continues to increase their knowledge levels over time. Patient involvement is a relatively new concept, therefore whilst some experienced or expert physiotherapists will have embraced this shift in healthcare, it is anticipated that many will not have developed knowledge of this approach. Hence it is anticipated that experience may be inversely related to knowledge of patient involvement.

3.5.2.3. Experience and Skills

In theory, clinical experience enables the physiotherapist to implement, reflect and refine the communication skills learnt at University (Schön, 1991; Eraut, 1994). However, experience is only of value if the individual actively reflects on action and learns from the experience (McGill and Weil, 1989). It is human nature for a professional to focus on the development of other skills once they believe they have reached an acceptable standard of practice in one particular area (Eraut, 1994). As a result, attrition or modification of information occurs according to perceived clinical relevance (Eraut, 1985), and hence practice decays over time (Schön, 1991). The physiotherapist may start to take shortcuts, possibly by developing one particular communication style which is then used in all consultations (Peat, 1981). Eventually they may become unable to adapt their communication style to suit different clients

needs (Byrne and Long, 1976). Hence it is feasible that physiotherapists' skill at patient involvement may be negatively associated with increasing experience.

3.5.3 Gender

Weak evidence exists to suggest that female health professionals may be more patient orientated than their male colleagues (Stenmar and Nordholm, 1994; Ohman and Hagg, 1998; Krupat, Rosenkranz, Yeager *et al.*, 2000; Flocke, Miller and Crabtree, 2002; Haidet, Dains, Paterniti *et al.*, 2002). Some studies have found that female health professionals use more empathic utterances (Winefield and Chur-Hansen, 2000; Bylund and Makoul, 2002; Roter, Hall and Aoki, 2002) and more affiliative comments than their male colleagues (Burgoon, Birk and Hall, 1991; Bradley, Sparks and Nesdale, 2001); whilst other studies found no evidence of gender differences in the use of directive comments or behaviours (Skelton and Hobbs, 1999; Tate, Foulkes, Neighbour *et al.*, 1999). Hence it is uncertain whether gender is likely to predict attitude, or skill.

3.5.4 Clinical Specialty

Some evidence exists to suggest that Orthopaedic physiotherapists (Stenmar and Nordholm, 1994; Jensen, Gwyer, Shepard *et al.*, 2000) and manual therapists (Thornquist, 2001) are less patient focussed than their colleagues who work in the community (Thornquist, 2001) or with clients who have mental health problems (Stenmar and Nordholm, 1994). It is recognised that the time pressures faced by hospital staff limit the extent to which staff communicate with patients (Pendleton, Schofield, Tate *et al.*, 2003), and as Orthopaedic physiotherapy is geared towards restoring function and reducing pain following surgery or trauma, it is possible that a directive approach may be more effective in the early stages of rehabilitation. Conversely manual therapists tend to focus their treatment on the behaviour of symptoms (Foster, Pincus, Underwood *et al.*, 2003), and, thus, as discussed in section 3.4.1, they may be less likely to share treatment decisions or discuss psychosocial sequelae with the patient.

Patient-related variables may also influence the extent to which physiotherapists

involve their patients. For example, increased patient age is suggested to be associated with a preference for a more directed approach to care (McKinstry, 2000). Hence it is possible that physiotherapists who specialise in the care of the older person may adopt a directive approach with all their clients, particularly if some of their patients have impaired cognition.

Patients' preference for involvement has also been suggested to be influenced by the nature of the problem (McKinstry, 2000) and their prognosis (Dowsett, Saul, Butow *et al.*, 2000). Hence a physiotherapist, who works on an intensive care unit, may have less scope to involve patients than one who works in a spinal injury rehabilitation centre.

It is intuitive therefore to expect physiotherapists' attitudes, knowledge and use of patient involvement strategies to be influenced by the preferences and needs of their patient population. However, patients have suggested that they may tailor their behaviour to conform to what they perceive to be the role that is expected of them by the health professional (Waterworth and Luker, 1990; Street, Krupat, Bell *et al.*, 2003). Hence patients' behaviours may not always be indicative of their preferences for involvement.

3.5.5. Perception of competence as a communicator

Physicians have been found to overestimate the extent to which they elicited patients' opinions, discussed medication risks and determined patients' ability to follow a treatment plan (Makoul, Arntson and Schofield, 1995). Interestingly, in the same study 24.3% of patients left the consultation with a belief that important topics had been discussed when, in fact, they had not been mentioned at all. Hence, whilst no such studies have been conducted in physiotherapy, it appears that there is little evidence that physicians' and patients' perceptions of competence correlate with actual discourse (Cegala, Gade, Lenzmeier *et al.*, 2004). Hence perception of competence may be predictive of attitude, but will not be expected to predict knowledge or skill.

3.5.6 Training

Evidence suggests that communication skills training can alter professionals' attitudes towards patients (Maguire, Booth, Elliott *et al.*, 1996; Fallowfield, Lipkin and Hall, 1998; Delvaux, Razavi, Marchal *et al.*, 2004), enhance their communication skills (Maguire, 1990; Langewitz, Eich, Kiss *et al.*, 1998; Lewin, Skea, Entwistle *et al.*, 2001; Sliwa, Makoul and Betts, 2002) and increase their knowledge. A randomised controlled study (n=65) (Smith, Lyles, Mettler *et al.*, 1998), investigated the effect of a 1 month training programme on doctors' knowledge of interview technique as assessed by multiple choice test. Trained residents were superior in knowledge to untrained residents by 15.7% (95% CI 11%-20%). Hence it is expected that additional communication training may be predictive of higher physiotherapist attitudes, whilst the effects of knowledge and skill will be influenced by other variables such as the amount of training and methods used, to enable the physiotherapist to transfer their skills into the workplace.

3.5.7. Summary

No strong evidence exists to suggest or refute a relationship between any of the variables considered in this section, and physiotherapists' attitudes, knowledge and skills regarding patient involvement. This is due to a lack of homogeneity in methods and assessment instruments employed by the various studies, which prevent comparisons from being made. However, there was some suggestion that a professionals' attitudes, knowledge and skills may be influenced by the amount of experience that the professional has accrued, and the receipt of post-graduate communication training. Physiotherapists' attitudes and skills may also be related to their specialist area. However, as some physiotherapists work across a number of specialist areas, the effects of this variable may not be detected.

3.6 Conclusion

No published studies were found which had assessed NHS physiotherapists' attitudes, knowledge and skill towards the involvement of patients in their physiotherapy care. Consequently there is a dearth of suitable instruments with

which to conduct such research. Patient involvement has been suggested to influence patient outcomes and patients' perceived control of their health (Harrington, Noble and Newman, 2004). Therefore, any variables which limit physiotherapists' ability to involve patients in the consultation should be identified.

Chapter 4:

Development and testing of instruments appropriate to the measurement of physiotherapists' and patients' attitudes, and physiotherapists' knowledge and skill regarding the involvement of patients in the physiotherapy consultation.

4.1 Introduction

Seemingly there are no instruments which measure physiotherapists' attitudes, knowledge or skill regarding the involvement of their patients, as defined in chapter 2. This chapter describes the development and testing of the *Physiotherapist's Attitudes towards Patient Involvement (PAPI-A) questionnaire, the Patients' Attitudes towards Patient Involvement (PAPI-B) questionnaire, the vignette evaluation sheet,* and the *Patient Involvement in physiotherapy Evaluation (PIE) tool.* The conceptual definition of patient involvement provided in Chapter 2 forms the framework on which these instruments are developed.

4.2 Development of PAPI-A & PAPI-B instruments to measure physiotherapists' and patients' attitudes towards patient involvement

In section 3.2.3 of the previous chapter, it was noted that questions 3 to 5 of the pre-consultation "Patient preferences for patient centredness questionnaire" (Little, Everitt, Williamson *et al.*, 2001), Appendix 1, contained items which reflected most of the attributes and empirical referents identified in chapter 2. In the absence of a more suitable alternative, this questionnaire was used as the basis for the PAPI-A and PAPI-B questionnaires.

4.2.1 Item Selection

Three of the 26 questions ("*I want the doctor to examine me*"; "*I want the doctor to find out how serious my problem is*"; "*I want a prescription")* were omitted as they did not relate to the definition of patient involvement in a physiotherapy context.

Three additional questions were added: *"I believe that I communicate effectively with my patients"; "Effective communication has as much of an impact on patients' health as my intervention";* and *"I feel comfortable asking patients' questions of a psychosocial nature*". These were intended to determine respectively: physiotherapist's perception of their own competence; their beliefs regarding the relative importance of communication as a physiotherapy tool and their beliefs about the ease with which they use psychosocial questioning techniques. The 3 negatively worded questions were retained to identify the presence of acquiescence bias.

4.2.2 Item wording

As the original questionnaire was designed for primary care patients to complete (Little, Everitt, Williamson *et al.*, 2001), it was necessary to change all occurrences of the word *doctor* to *physiotherapist.* The wording of items in the PAPI-A were changed to reflect the physiotherapist as first person singular, and to replace *want* with the modal verb *should* (*"I want the doctor to be interested in what I want to know"* became *"I should be interested in what the patient wants to know").* The conditional tense of the questions was not altered as it was felt that this would elicit attitudes towards involvement generally, rather than specifically relating to what had just occurred in the consultation.

4.2.3. Cognitive Interviewing

To avoid any misinterpretation or ambiguity of items, seven physiotherapists and three patients, who were representative of the target population, were asked to read the questionnaires aloud and rephrase in their own words (Willis, 2004). The question: *"My treatment should be worth the trouble that it will take the patient"* proved difficult to interpret and was removed from the questionnaire.

4.2.4 Scoring

The 7 point Likert scoring system (*Very strongly agree* to *Very strongly disagree)* used in Little's (2001) original questionnaire was retained, although the mid-point descriptor *"neutral"* was changed to *"neither agree nor disagree"* as recommended by Streiner and Norman (2003).

4.2.5. Validity

As a new instrument, the PAPI required validation (Fife-Schaw, 1995) to ensure that it actually measured what it purported to measure (Coolican, 2004). The first part of the validation process was a critical review (Streiner and Norman, 2003) to determine what attributes underpin the concept under examination. This process was described in section 2.7 of this thesis. As the PAPI was adapted from another instrument, it did not contain items which related to all of the attributes stated in section 2.7. Consequently, the PAPI questionnaires would not elicit physiotherapist or patient attitudes relating to attribute d: "*The patient should be offered a legitimate choice;* and attribute e "*The patient should be willing to participate"*. The omission of items which relate to these attributes would not be detrimental to the validity of the PAPI as there is a degree of overlap between the empirical referents for the two missing attributes and the five which had been included.

An expert panel was then consulted to establish content validity as recommended by Shepard (1993). It consisted of a Professor of Rehabilitation and Therapies, two physiotherapy managers from an Acute Trust, a senior lecturer in clinical psychology, two physiotherapy researchers and a physiotherapy manager from a Primary Care Trust plus two patient representatives (Appendix 17). The panel were satisfied that PAPI items were representative of patient involvement in physiotherapy.

As there is no "gold standard" measure of patient involvement in physiotherapy it was not possible to determine criterion validity (Streiner and Norman, 2003). PAPI - A (Appendix 2) and PAPI- B (Appendix 3) were considered to have face and content validity.

4.2.6 Piloting the physiotherapists' attitudes towards patient involvement (PAPI-A) questionnaire

It is recommended that questionnaires are piloted on a sample that is similar to the main study sample (Oppenheim, 1992). To avoid contamination of the main study population i.e. physiotherapists who currently work in the NHS, the questionnaire was piloted on UK trained physiotherapists who had left the NHS within the last two

years to retire, change vocation, work abroad, or work in the private sector. A minimum of 100 responses were required to enable factor analysis to be conducted (Kline, 1994). As the main survey was to be disseminated electronically, the pilot surveys were circulated electronically. Consenting physiotherapists were asked to pass the questionnaire onto friends who satisfied the inclusion criteria, however there was a possibility of some contamination occurring using this sampling method. Paper questionnaires were circulated to respondents whose e-mail address was unknown in order to ensure that sufficient responses were received. A total of 102 responses were received.

4.2.6.1 Test retest reliability

Ten of the pilot respondents completed a second questionnaire 4 weeks later. This duration of time may have allowed other influences to alter attitude towards patient involvement. However, the reliability coefficient was 0.7 which, given the time between questionnaires, was considered acceptable.

The standard error of measurement was calculated to be 8.47. The 95% confidence interval was calculated for each score to ensure that the second scores fell within this margin. Nine of the scores fell within the 95% confidence interval for observed scores, therefore the scale was considered to have satisfactory test-retest reliability (Streiner and Norman, 2003).

4.2.6.2 End Aversion, Bias and Skew

All response alternatives were used indicating that there were no end aversion problems. All questions except question 23, had skew indices ranging from -0.11 (question 3) to -1.45 (question 16) i.e. respondents favoured patient involvement. Question 23 had a skew index of 0.45 i.e. more respondents disagreed with this item. Skewed data does not conform with normal distribution rules (Brace, Kemp and Snelgar, 2003), unless the sample size is sufficiently large for the Central Limit theorem to apply (Altman, 1991). In this pilot, only 88 sets of data were complete thus Central Limit theorem did not apply. The effects of skew can be reduced by moving the middle of the scale towards the side on which most responses are grouped (Streiner and Norman, 2003). In this case, skew was negated by

separating respondents who strongly agreed and very strongly agreed from those who agreed, disagreed or did not have an opinion. After recoding the data, the Shapiro-Wilk test was not significant (p=0.403) indicating that data were consistent with a normal distribution (Altman, 1991).

4.2.6.3 Endorsement frequency

The endorsement frequency is the number of respondents who used each response option to an item. By collapsing the scale into 3 responses: *Very strongly agree*; *strongly agree* and those who *disagree or have no strong opinion*, the endorsement frequency for each response alternative in each item fell between the recommended limits of 0.2 and 0.8 (Streiner and Norman, 2003).

4.2.6.4 Discrimination ability

As respondents answered the questionnaire in a positive direction, the discrimination indices ranged from 0.04 (questions 7 & 12) to 0.23 (questions 13 & 18). Regardless of recoding, no item met the minimum recommended discrimination score of 0.3 (Ding, Chabay, Sherwood *et al.*, 2006). It is possible, however that the poor discriminatory function of this questionnaire was a reflection of the relative homogeneity of the sample who completed the pilot, rather than a product of the questionnaire. As the aim of this study was to determine physiotherapists' attitudes towards patient involvement overall rather than to evaluate change in attitude, the poor discriminatory ability of the questionnaire was not of great concern, but should be noted.

4.2.6.5 Factor Analysis

The pilot data set exceeded the minimum recommended ratio of 2 participants to each variable (Kline, 1994). However, only 88 complete data sets were received. Kline recommends that the sample size should exceed 100 to reduce the risk of erroneous results. Factor analysis was conducted on the understanding that the results, shown in table 4.2, would have to be validated against the main data set.

It was anticipated that some items would load onto more than one component since

some of the referents noted in section 2.13 contribute towards more than one defining attribute. For the purposes of factor analysis it is recommended that such items be removed (Tabachnick and Fidell, 2001). Principal components analysis with a Kaiser varimax rotation revealed eleven items *without clear weighting towards any one component.* These were removed from the analysis. Thirteen items were retained as listed in table 4.1. These formed four components with Eigenvalues in excess of 1 (Kline, 1994) and accounted for 69.3% of the variance. The Kaiser Meyer Olgen (KMO) value (0.82) and diagonal anti-image correlations exceeded the recommended values of 0.6, and 0.5 respectively (Brace, Kemp and Snelgar, 2003).

Table 4.1: Principal Component Analysis Rotated Component Matrix-PAPI-A

	Component			
	1	2	3	4
I should deal with the patient's worries about their problem (Qn4)		0.73		
I should listen to everything that the patient has to say about their problem. (Qn5)		0.75		
I should be interested in what the patient thinks the problem is. (Qn6)		0.79		
I should be interested in how the problem affects my patient's life. (Qn7)		0.72		
I should treat the patient as an equal. (Qn11)	0.31			0.76
I should be friendly and approachable. (Qn12)				0.74
I should explain clearly what the patient's problem is. (Qn14)			0.85	
The patient and I should discuss and agree what the problem is together. (Qn15)	0.70		0.32	
I should explain clearly what should be done. (Qn16)			0.84	
I should be interested in what the patient wants done. (Qn17)	0.76	0.37		
I should be interested in what treatment the patient wants. (Qn18)	0.81			
The patient and I should discuss and agree the treatment together. (Qn19)	0.74			0.40
I alone should decide on the treatment without discussion. (Qn20)	0.70			0.43

Table 4.2 Factor structure, item –total and Cronbach's alpha values: PAPI-A

Descriptor	Items	Item total value	Alpha
PAPI - A	4. I should deal with the patient's worries about their problem	0.54	0.87
	5. I should listen to everything that the patient has to say about their problem.	0.50	
	6. I should be interested in what the patient thinks the problem is.	0.56	
	7. I should be interested in how the problem affects my patient's life.	0.47	
	11. I should treat the patient as an equal.	0.48	
	12. I should be friendly and approachable.	0.51	
	14. I should explain clearly what the patient's problem is.	0.52	
	15. The patient and I should discuss and agree what the problem is together.	0.60	
	16. I should explain clearly what should be done.	0.51	
	17. I should be interested in what the patient wants done.	0.68	
	18. I should be interested in what treatment the patient wants.	0.68	
	19. The patient and I should discuss and agree the treatment together.	0.54	
	20. I alone should decide on the treatment without discussion.	0.55	
Involvement in treatment planning	15. The patient and I should discuss and agree what the problem is together.	0.65	0.85
	17. I should be interested in what the patient wants done.	0.68	
	18. I should be interested in what treatment the patient wants.	0.74	
	19. The patient and I should discuss and agree the treatment together.	0.68	
	20. I alone should decide on the treatment without discussion.	0.57	
Exploration of the patients' perspective	4. I should deal with the patient's worries about their problem	0.57	0.80
	5. I should listen to everything that the patient has to say about their problem.	0.63	
	6. I should be interested in what the patient thinks the problem is.	0.62	
	7. I should be interested in how the problem affects my patient's life.	0.56	

Since components 3 and 4 were comprised of only 2 items, they were not considered stable as there were insufficient items to limit the effects of error (Tabachnick and Fidell, 2001). Whilst the items were retained as part of the total PAPI score, the components were discarded.

Homogeneity of the individual components, as measured by item-total correlations, and internal consistency denoted by Cronbach's alpha, are presented in table 4.2 above.

As item total correlations exceeded the minimum recommended value (0.2) (Kline, 1986), and values for Cronbach's alpha fell between the recommended figures of 0.7 and 0.9 (Nunnally, 1967), PAPI-A and its components were internally consistent and reliable.

4.2.7 Piloting the Patients' attitudes towards patient involvement (PAPI-B) questionnaire

The PAPI-B questionnaire was distributed in a paper format, as intended for the main survey, to people who had completed a course of physiotherapy in the last three years. The lower age range was 18 but there was no upper age limit. A good command of written English was required and the person had to be able to complete the questionnaire themselves. A snowball sampling technique was used whereby consenting people known to have had physiotherapy were asked to recommend other potential recipients. This method was cost-effective, easy to administer, and reached a wider sample of past patients than would otherwise have been possible. A minimum of 100 respondents was required to enable factor analysis to be conducted (Kline, 1994). A total of 144 replies were received.

4.2.7.1. PAPI-B test-retest reliability

Twenty five patients completed a second questionnaire 14 days after the first. The reliability coefficient was calculated as 0.7. This was on the lower limit of acceptability (Nunnally, 1967). The standard error of measurement was calculated to be 6.12. Eight (33.3%) of the retest scores fell outside the 95% confidence interval. Reliability for the patient questionnaire is therefore not as good as the

physiotherapists scale. This may be because patients do not have strong attitudes either supporting or rejecting patient involvement in a physiotherapy context, and thus opinions changed slightly between the two time points.

4.2.7.2 End Aversion Bias and Skew

The indices for skewness ranged from 0.01 (question 9) to 0.67 (question 18), however, as item scores were to be summed, and the data set exceeded 100, Central Limit theorem applied (Tabachnick and Fidell, 2001) negating the need for recoding. Despite the tendency to favour categories which endorse patient involvement, all response categories had been used throughout the instrument.

4.2.7.3 Endorsement frequency and Discrimination ability

As with the PAPI-A, a predominance of positive responses resulted in only 6 questions falling within the recommended endorsement frequency limits (Streiner and Norman, 2003). This was recognised as a weakness of the questionnaire. The discrimination indices ranged between 0.01 and 0.32. This questionnaire is therefore not suited to measure change in attitude.

4.2.7.4 Factor Analysis

Principal components analysis with varimax rotation revealed a five component solution with a KMO value of 0.75, illustrated in table 4.3. This accounted for 67.6% of the variance. As with PAPI-A, 9 items were removed due to multiple loadings. Two components (4 & 5) contained only two items and were thus unstable, although the items were retained as part of the main PAPI-B score (Tabachnick and Fidell, 2001).

Table 4.3 Principal Component Analysis Rotated Component Matrix-PAPI-B

	Component				
	1	2	3	4	5
1. Effective communication has as much of an impact on my health as the physiotherapy treatment.					0.80
2. I feel comfortable answering questions of an emotional or social nature.					0.80
4. I want the physiotherapist. to listen to everything I have to say about my problem	0.40		0.63		
5. I want the physiotherapist to be interested in what I think the problem is		0.32	0.75		
7. How it affects my life is just my affair and has nothing to do with the physiotherapist				0.77	
8. I want the physiotherapist to be interested in what I want to know			0.78		
10. I want the physiotherapist to treat me as an equal	0.81				
11. I want the physiotherapist to be friendly and approachable	0.86				
12. I want to feel really understood by the physiotherapist.	0.70				
14. I want the physiotherapist and I to discuss and agree what the problem is together		0.67			
18. I want the physiotherapist and I to discuss and agree the treatment together		0.86			
19. The physiotherapist alone should decide on the treatment without discussion		0.74		0.35	
21, My future health is my business and has nothing to do with the physiotherapist				0.78	
23. I want advice on what I can do	0.59				

As table 4.4 demonstrates, all item total correlations exceeded 0.2 as required for scale homogeneity (Kline, 1986), whilst the values for Cronbach's alpha fell between the recommended figures of 0.7 and 0.9 (Nunnally, 1967). PAPI - B and its components therefore had internal consistency and reliability.

Table 4.4 Factor structure, item –total and Cronbach's alpha values: PAPI-B

Descriptor	Items	Item total value	Alpha
PAPI-B	1. Effective communication has as much of an impact on my health as the physiotherapy treatment.	0.25	0.82
	2. I feel comfortable answering questions of an emotional or social nature	0.26	
	4. I want the physiotherapist to listen to everything I have to say about my problem.	0.56	
	5. I want the physiotherapist to be interested in what I think the problem is.	0.53	
	7. How it affects my life is my affair and has nothing to do with the physiotherapist.	0.34	
	8. I want the physiotherapist to be interested in what I want to know.	0.45	
	10. I want the physiotherapist to treat me as an equal.	0.48	
	11. I want the physiotherapist to be friendly and approachable	0.56	
	12. I want to feel really understood by the physiotherapist.	0.56	
	14. I want the physiotherapist and I to discuss and agree what the problem is together	0.55	
	18. I want the physiotherapist and I to discuss and agree the treatment together.	0.55	
	19. The physiotherapist alone should decide on the treatment without discussion	0.43	
	21. My future health is my business and has nothing to do with the physiotherapist.	0.26	
	23. I want advice on what I can do.	0.53	
The development of a therapeutic relationship	10. I want the physiotherapist to treat me as an equal.	0.61	0.78
	11. I want the physiotherapist to be friendly and approachable	0.73	
	12. I want to feel really understood by the physiotherapist.	0.58	
	23. I want advice on what I can do.	0.47	
Involvement in treatment planning	14. I want the physiotherapist and I to discuss and agree what the problem is together	0.59	0.75
	18. I want the physiotherapist and I to discuss and agree the treatment together.	0.73	
	19. The physiotherapist alone should decide on the treatment without discussion	0.43	
Exploration of the patient's perspective	4. I want the physiotherapist to listen to everything I have to say about my problem.	0.58	0.73
	5. I want the physiotherapist to be interested in what I think the problem is.	0.62	
	8. I want the physiotherapist to be interested in what I want to know.	0.47	

4.2.7.5 Conclusion

The PAPI –A and PAPI-B questionnaires have been shown to have face, content and construct validities and were sufficiently reliable when retested. Respondents favoured response categories which supported patient involvement, resulting in skewed data which were unable to discriminate adequately between high and low scorers. The PAPI–A and B were intended to be matched to enable comparisons to be made between physiotherapists' and patients' attitudes, however differences in the number and constitution of the components elicited from factor analyses support the suggestion that professionals' and patients' beliefs and understanding of involvement differ (Street and Voigt, 1997; Arnetz, Bergstrom, Franzen *et al.*, 2004). Each component had acceptable internal consistency thus enabling each to be used as a scale in its own right (Streiner and Norman, 2003).

4.3 Development of the vignette evaluation sheet to assess physiotherapists' knowledge of patient involvement

A review of possible instruments with which to measure physiotherapists' knowledge of patient involvement was described in section 3.3.3. As no appropriate instruments could be found for this purpose, video vignettes were proposed as a suitable method of eliciting physiotherapists' propositional, practical and tacit knowledge. The following section describes the development and testing of three vignettes and a vignette evaluation sheet.

4.3.1. Development of the vignettes and vignette evaluation sheet

A clinical scenario was selected which all physiotherapists could relate to, regardless of their clinical interests. Since the initial assessment presents physiotherapists with the most opportunities to involve the patient, the vignettes featured part of an initial assessment of a patient who presented with low back pain, a condition which is prevalent in the UK (Walsh, Cruddas and Coggon, 1992; Woolf and Pfleger, 2003), and commonly encountered by physiotherapists (Foster, Thompson, Baxter *et al.*, 1999). For purposes of credibility, the behaviour of the fictitious physiotherapist in each scenario had to be consistent i.e. either biomedically orientated or patient centred. Using these two scenarios alone would have enabled subjects to predict

what score to give, as patients are typically involved to a much lesser extent in biomedical consultations compared with patient centred consultations (de Monchy ,Richardson, Brown *et al.*, 1988; Dowsett, Saul, Butow *et al.*, 2000). A third scenario was therefore developed which featured a less distinct consultation style. By showing the vignettes in a random order it was anticipated that order effects would be overcome. The same actors appeared in each vignette and all other consultation variables were controlled.

It has been suggested that the human brain can retain seven (+/- two) items at any one time (Miller, 1957). Hence, knowledge of patient involvement was assessed by seven variables. Six of the variables were empirical referents, listed in section 2.13. These were selected by observation of the history-taking section of ten videotaped physiotherapy consultations for out-patients with back and neck pain, collected by the principle investigator (AG) for a study outside the scope of this thesis (the McKabi study). The aim of this exercise was to identify which of the referents showed the greatest variation across the ten consultations. A seventh variable was the respondent's judgement of the degree to which the patient was involved overall; a technique used by Martin et al (2001). As with the PAPI instrument, section 4.2.5, the six items on the vignette evaluation sheet did not reflect all seven attributes which defined patient involvement in physiotherapy. The vignettes portrayed an excerpt of a physiotherapist taking a history of the patient's condition. Hence three attributes, listed in section 2.7, were relevant to this stage of the consultation: *The physiotherapist engages the patient in the activity in which they are to be involved* (attribute a); *An egalitarian relationship must exist* (attribute c); and *Information exchange, both psychosocial and biomedical, takes place between the physiotherapist and the patient* (attribute g).

A panel composed of three psychologists, three physiotherapists, a therapy services manager (occupational therapist) and three patient representatives, described in Appendix 17, were shown a pilot video-recording of the vignettes. They were asked to comment on credibility, presence of other confounding variables, and the face validity of the score sheet. Once amendments had been made, the vignettes were professionally filmed in a physiotherapy out-patient department using actors as the physiotherapist and patient. A CD-ROM of the vignettes can be found in appendix 16 at the back of this thesis.

4.3.2. Score system

For each vignette, the physiotherapists were asked to score the simulated physiotherapist's competence in the six chosen skills and her overall ability to involve the patient using a five point Likert scale, which ranged from "*Very Unsatisfactory" to "Very Good"*.

4.3.3 Analysis

Knowledge was quantified by comparing each physiotherapist's scores per item with a consensus score derived from expert opinion. A panel of experts was convened comprising of two clinical psychologists and two physiotherapists all of whom had research interests in the use of enhanced communication techniques, and two patient representatives. Please refer to appendix 17 for membership details. The patient representatives had received a course of physiotherapy, and had vocational experience of using advanced communication techniques. Each panel member scored the vignettes independently from the rest of the group.

The group then met to discuss the rationale behind their scores and arrive at a consensus of opinion regarding how each item should have been scored. The panel's scores consistently fell in the same direction but tended to vary by one category per item. It was therefore decided to collapse categories such that the two unsatisfactory categories became one, the neutral category remained, and the two satisfactory categories were combined. Table 4.5 demonstrates the expert panel consensus regarding the score for each vignette.

4.3.4 Pilot

The vignette evaluation sheet was piloted with 11 senior physiotherapists, of which 8 completed the exercise in a group setting, in order to determine any potential flaws in the methodology. Table 4.6 illustrates the distribution of pilot scores. When the response categories are collapsed as described above, one response alternative (good) was unused in scenario 1. Each response category is used more than once across the three scenarios. Only items 2.1 to 2.4, 2.6, 2.7, and 3.5 satisfied the recommended endorsement frequency rules which require a minimum of 5% of responses and no more than 95% of responses per response category (Streiner and

Norman, 2003). This suggests that scenarios 1 and 3, and item 5 in scenario 2 may have been predictable, however as this pilot was conducted with senior staff, it was anticipated that less experienced physiotherapists might show more variance across items particularly if the vignettes were played in a random order.

Table 4.5: Expert panel consensus decision regarding the score for each vignette item

Description	Vignette Number	Unsatisfactory	Acceptable	Good
1. Physiotherapist encourages patient to tell their story	Video1	☑		
	Video2		☑	
	Video 3			☑
2. Physiotherapist treats the patient as an equal	Video1	☑		
	Video2	☑		
	Video 3			☑
3. Physiotherapist "actively" listens to what the patient has to say	Video1	☑		
	Video2	☑		
	Video 3			☑
4. Physiotherapist explores the effect of the problem on the patient's emotional status	Video1	☑		
	Video2	☑		
	Video 3			☑
5. Physiotherapist explores patient's expectations	Video1	☑		
	Video2	☑		
	Video 3			☑
6. Physiotherapist explores the effect of the problem on patient's social activities	Video1	☑		
	Video2	☑		
	Video 3			☑
7. Overall, how well do you think the physiotherapist involved the patient in this consultation?	Video1	☑		
	Video2	☑		
	Video 3			☑

Discrepancy scores were calculated by subtracting each participant's response from that of the panel consensus score. The direction of the discrepancy was not relevant. Discrepancy scores were then summed to obtain the participant's discrepancy score per scenario and a total discrepancy score across the three scenarios.

Total discrepancy scores ranged from 0 to 21 of a possible 0 to 42 points. Only one participant scored a discrepancy point for scenario 1, whilst scores for scenarios 2 and 3 ranged from 0 to 12 and 0 to 8 respectively.

Table 4.6: Raw pilot data to determine category usage of vignette evaluation sheet over three vignettes.

Description	Vignette Number	Very Unsatisfactory	Unsatisfactory	Acceptable	Good	Very Good
1.Physiotherapist encourages patient to tell their story	Video1	3	7	1		
	Video2	1	1	5	4	
	Video 3			1	6	4
2.Physiotherapist treats the patient as an equal	Video1	6	5			
	Video2		3	5	3	
	Video 3				6	5
3.Physiotherapist "actively" listens to what the patient has to say	Video1	6	5			
	Video2	2	1	7	1	
	Video 3			1	4	6
4.Physiotherapist explores the effect of the problem on the patient's emotional status	Video1	8	3			
	Video2	2	1	7	1	
	Video 3			1	4	6
5.Physiotherapist explores patient's expectations	Video1	8	3			
	Video2	1	3	7		
	Video 3		1	4	3	3
6.Physiotherapist explores the effect of the problem on patient's social activities	Video1	6	5			
	Video2	2	2	4	3	
	Video 3		1		5	5
7. Overall, how well do you think the physiotherapist involved the patient in this consultation?	Video1	6	5			
	Video2	1	1	6	3	
	Video 3			1	6	4

4.3.5. Conclusion

Three vignettes were written featuring the same scenario, physiotherapist, patient and department, but the physiotherapist's approach towards the patient differed. A vignette evaluation sheet was developed and tested. Please see Appendix 7. Eleven pilot respondents observed the vignettes, one at a time, and indicated how well they believed the simulated physiotherapist performed against six variables, and how well she involved the patient overall. A knowledge score was derived by calculating the discrepancy between the respondent's score and that of an expert panel per item, then summing the scores to derive a discrepancy score per vignette and overall. The pilot scores suggested that two of the scenarios may have been predictable. However no alterations were made, as the pilot sample were experienced physiotherapists, and it is unknown whether knowledge of patient involvement increases with experience i.e. the pilot sample may have been biased.

4.4 Patient Involvement in physiotherapy Evaluation (PIE) tool to assess physiotherapists' skills in patient involvement

Elwyn and colleagues (2001) have suggested that there is no gold standard instrument to measure patient involvement. Therefore, for the purposes of this study, it was necessary to develop a tool which was: valid for use in a physiotherapy consultation; included the attributes which defined patient involvement in physiotherapy; and considered both verbal and non-verbal behaviours.

4.4.1 Item selection

Two instruments, developed for the teaching and assessment of doctor- patient communication, formed the basis for the development of the Patient Involvement in physiotherapy Evaluation (PIE) tool. Both contained a number of the empirical referents listed in chapter 2. The Calgary-Cambridge observation guide (Riccardi and Kurtz, 1983) is a sequentially ordered checklist of 70 items. As a checklist, rather than a rating scale, it was not possible to determine whether an observed item was performed well or contributed greatly to the consultation, therefore this instrument was combined with the *"Interview Rating Instrument"* (Klein, 1996). This latter instrument, derived from the "*Rating Scale for History-taking Interviews*

(Evans, Stanley, Burrows *et al.*, 1989), was developed to evaluate medical students' communication skills. To identify which items were applicable in a physiotherapeutic context, ten videotaped out-patient physiotherapy consultations, were assessed using both instruments. Redundant, ambiguous, duplicitous or irrelevant items were discarded. The videotaped consultations, as mentioned in section 4.3.1, had been collected by the principle investigator (AG) for another study (McKabi study) outside the scope of this thesis. A preliminary PIE tool was developed from the remaining items. These items featured empirical referents from all seven of the attributes, listed in section 2.7, which defined patient involvement in physiotherapy.

4.4.2. Content validity

A panel of communication experts comprising of three psychologists, a statistician and two physiotherapists with enhanced communication skills as stated in appendix 17, assessed the instrument for content validity, ambiguity and item duplication. The number of PIE items was honed as a result of panel discussions. A five point Likert scale was agreed which ranged from *very unsatisfactory* to *very good.* Items were arranged sequentially, since the effectiveness of certain items depends upon when they are employed in the consultation. For example, in order to encourage patients to ask questions the item "*Invites questions"* should be used early in the consultation.

The category "*Technical difficulties*" described circumstances external to the consultations. For example inaudible sound, premature cessation of recording, or interactions off camera which prevented the rater from scoring an item. A second category, "*Not Applicable*", described items which were omitted because the patient volunteered this information unprompted, or the consultation had progressed such that the item was no longer relevant.

There is some debate regarding the reliability of assigning ratings and summing the individual item scores in order to obtain a total score (Schirmer, Mauksch, Lang *et al.*, 2005). Bland (1994) suggests that it is the rater who is the measuring instrument rather than the scale itself. However, if this argument were valid, it would discredit

a number of psychological rating tools. Provided that the tool defines the aspect of the behaviour to be assessed, and delineates how each behaviour is to be rated, bias is minimised and reliability is increased (Streiner and Norman, 2003).

Raters should be sufficiently skilled in assessing the behaviour in question (Regehr, MacRae, Reznick *et al.*, 1998). The raters therefore met twice prior to the rating exercise in order to discuss the meaning apportioned to each item in terms of the individual categories. Raters scored videotaped consultations separately, then discussed items where discrepancies arose. Through sharing experiences a manual, which originally defined the anchors for each item, was replaced by more explicit item descriptors as it proved difficult to use.

4.4.3 Pilot

Two raters independently observed and rated the simulated consultation vignettes described in section 4.3, using the PIE tool. Inter-rater reliability using intraclass correlation coefficients was 0.533 (SEM 8.34). The design of the instrument was simplified and the manual was replaced by concise item descriptors. Rater 1 and rater 2 independently scored the consultations using the PIE tool (version 11b) in order to determine the extent of agreement. The intraclass correlation coefficient over the three consultations was 0.76 which indicated an acceptable level of agreement (Streiner and Norman, 2003).

Items which required interpretation of the patient's paralingual and non-verbal cues e.g. empathy, proved less reliable to score. However, given the acceptable level of intra-rater reliability overall, such items were not removed as they distinguish the PIE tool from other instruments.

As this was a molar instrument rather than a more detailed conversational analysis tool, inter-rater reliability was likely to be reduced. This was due to the complexity of recognising and scoring more obscure items such as the physiotherapists' ability to incorporate patients' beliefs and explanatory language in their discussions. This was overcome by transcribing pertinent aspects of the patient's narrative so that it was easier to detect the physiotherapist's use of the patient's descriptive terms later

in the consultation. Whilst increasing inter-rater reliability, this step increased the time required to rate each consultation.

To make the PIE tool more concise, it was decided to remove the item which referred to goals being arranged in a SMART format i.e. specific, measurable, achievable, realistic and time bound (Mead, 2003), and the item which determined patients' beliefs about cure. Experience suggested that as time is constrained in the initial consultation, physiotherapists may defer SMART goal discussions to a later appointment, in order to determine how well the condition responds to treatment. This final version of the PIE tool is illustrated in Appendix 14.

4.4.4 Factor Analysis

As the pilot data set was small, and the main data set is likely to be less than 100, factor analysis was not appropriate.

4.4.5 Summary

The 36 item *Patient Involvement in physiotherapy Evaluation* (PIE) tool has face and content validity for use in a physiotherapy consultation. It fulfills the requirement of a tool which measures the attributes which define patient involvement in physiotherapy, and measures both verbal and non-verbal behaviours. Finally, it has acceptable inter-rater reliability.

4.5 Conclusion

This chapter described the development and testing of four instruments for the measurement of factors relating to patient involvement in physiotherapy. Copies of the instruments are included in appendices 2, 3, 7, 14 and 16 of this thesis. The implementation of these instruments will be discussed in the following four chapters.

Chapter 5:
A national survey of physiotherapists' attitudes towards the involvement of patients in the physiotherapeutic consultation.

5.1 Introduction

In section 3.2.4 it was established that attitudes may influence patient involvement. However the attitudes of NHS physiotherapists towards the involvement of patients in their care have not previously been investigated. This chapter describes the implementation and results of a national cross-sectional survey used to investigate physiotherapists' attitudes towards the involvement of patients in physiotherapy consultations.

5.2 Research Aims

The aims of this study were to answer the following questions:

a) What proportion of NHS physiotherapists believe that patients should be involved in physiotherapy consultations?

b) Can physiotherapists' attitudes towards patient involvement be predicted by variables such as age, gender, specialist area, years of experience, perception of adequate undergraduate communication training, perception of personal competence as a communicator and receipt of additional communication training?

5.3 Method

5.3.1 Research Design

A national cross-sectional electronic survey was conducted of physiotherapists who work in English NHS Trusts. Ethical approval was obtained from the Hull and East Riding Research Ethics Committee and the relevant NHS Trust research governance committees.

5.3.2 Rationale for conducting an electronic survey

An electronic survey method was used because it was cost-effective, had the potential to reach large numbers of physiotherapists, and could be completed and submitted without the physiotherapist having to leave their workstation. Internet research methodologies have been evaluated and found to have external validity (LaCoursiere, 2003). As the physiotherapists' professional website and a new interactive website for physiotherapists were attracting increasing numbers of registrants (Chartered Society of Physiotherapy, 2004), this suggested that many physiotherapists were comfortable communicating electronically.

5.3.3 Questionnaire Design

The design and piloting of the PAPI-A questionnaire has been discussed in section 4.2. The physiotherapists' questionnaire, illustrated in appendix 2, consisted of the 24 item questionnaire from which the PAPI-A is derived, and 10 questions designed to capture socio-demographic information about the physiotherapist. This included the physiotherapist's age; experience; gender; area of specialism; beliefs about the adequacy of their undergraduate training to prepare them to communicate effectively with patients; and details of any post-graduate communication skills training undertaken.

5.4 Sample

The survey was disseminated to physiotherapists who were employed within the NHS in England at the time of the survey. These physiotherapists were easy to access, were all expected to comply with the same standards of care (Department of Health, 2004c) and likely to experience comparable pressures due to limited time, staff and equipment.

5.4.1 Inclusion Criteria

Questionnaires were circulated to consenting physiotherapists who satisfied the following criteria:

a) The physiotherapist must have sat and passed a qualifying examination in

physiotherapy, and was thus able to be state registered by the Health Professions Council.

b) The physiotherapist must be employed by an English NHS Trust.

5.4.2 Sample size

A Department of Health census of NHS staff in 2003 reported that the workforce was comprised of 17,922 qualified physiotherapists. (Department of Health, 2003). This was projected to increase to 19,139 by 2004 (The United Kingdom Parliament, 2005) due to an increase in undergraduate training places (Department of Health, 2001b). A sample size of 384 physiotherapists was chosen as this represented 2% of all NHS physiotherapists and would amply satisfy the recommended minimum ratio of ten respondents per survey item required to conduct multivariate analyses (Tabachnick and Fidell, 2001). However previous physiotherapist surveys had only yielded return rates of 58.3% (Foster, Thompson, Baxter *et al.*, 1999), 61% (Haboubi and Lincoln, 2003) and 76% (Stenmar and Nordholm, 1994). As response rates for electronic surveys were suggested to be lower than their paper equivalents (van den Kirkhof, Parlow, Goldstein *et al.*, 2004; Faulx, Vela, Das *et al.*, 2005), the number of physiotherapists to be contacted in this survey was thus increased to768 to allow for a 50% response rate.

5.4.3 Sample Frame and design

The numbers of physiotherapists employed within each type of NHS Trust vary, as do the relative proportions of each type of Trust. Therefore to ensure that the sample for this study was representative of the whole population of NHS physiotherapists it was necessary to equalise the probability of selection for each physiotherapist. A random sampling procedure was applied which was stratified according to the type of NHS Trust (i.e. Acute Hospital Trusts, Primary Care Trusts, Mental Health Trusts and Care Trusts). The sampling interval was weighted according to the relative proportion of physiotherapy staff employed within each type of Trust and the number of Trusts in each stratum. Trust names were obtained from the *nhs.uk* website (http://www.nhs.uk). It was predicted that Acute Trusts (n = 177) would contain more physiotherapists than mental health Trusts (n = 71) and

Care Trusts (n = 9), and that some Primary Care Trusts (n = 300) would employ few or no physiotherapists. A secondary list of Trusts was compiled in case any on the primary list were unable to be contacted, were unwilling to participate, or did not employ physiotherapists. As there were few Care Trusts, these were placed in the same strata as Mental Health Trusts. A random number list was used to select 154 Trusts in the proportion of 2 Acute Trusts: 1 Mental Health/ Care Trust: 4 Primary Care Trusts. This figure represented a little over one quarter of all NHS Trusts.

5.5 Questionnaire Dissemination

Consenting physiotherapy managers from selected Trusts were asked to disseminate an electronic questionnaire (Appendix 2) to a consenting sample of staff that represented different grades, genders and clinical specialties. Follow up electronic or telephone contact with the physiotherapy manager was made after three months to encourage further dissemination of the questionnaire.

Contact could only be established with 49 (32.7%) of the 150 selected Trusts from the primary and supplementary lists, therefore convenience sampling was employed to increase response rates. Physiotherapy managers who were known to colleagues or listed in the "Frontline" journal were contacted. Requests for paper questionnaires were granted if e-mail access was problematic or software proved incompatible. Finally, recruitment was widened by submitting the survey to an interactive, moderated website for physiotherapists *"interactive CSP"* (http://www.interactivecsp.org.uk). Approximately 5,000 physiotherapists were registered on the site at the time of the study (Chartered Society of Physiotherapy, 2004). The questionnaire was also disseminated following the screening of the video vignettes, as described in section 7.5.

To enable relationships to be explored between physiotherapists' attitudes, knowledge and skill, the questionnaires were also disseminated, in paper format, to physiotherapists who participated in the studies described in chapters 7 and 8.

5.6 Data Cleaning

Electronic responses were returned as attachments. Therefore to ensure anonymity the attachment was printed and numbered, and the e-mail was deleted. The respondent was only contacted if data was missing. Data was entered onto an SPSS for windows database (Vn 11.5) as it was received. At the end of the survey, 20% of the data was randomly selected and entered onto a second database by an independent researcher. Comparisons were made between the two databases to check for errors. Of a total of 5733 entries, 6 inconsistencies were found (0.1% error). These inconsistencies were traced back to the original data set and corrected. A full second entry would have been desirable (Altman, 1991), however as errors occur in either direction i.e. over estimates and under estimates, an error rate of 0.1% would have had little effect on the overall results and therefore this procedure was not conducted.

5.6.1 Missing Data

One respondent completely omitted the PAPI-A questionnaire. Two respondents omitted sufficient amounts of data thus invalidating the questionnaires. Single items were missing from 21 questionnaires. No single question was missed more than any other. Although Altman (1991) suggests denoting missing values as such, a decision was taken to replace single missing values with the mean of the other scores in that scale, as suggested by Tabachnick and Fidell (2001) This procedure is permitted provided that the sample is large, missing data occurs randomly and does not amount to more than 5% of data.

5.6.2 Outliers

The data set was screened using histograms, and descriptive statistics to detect outliers and obviously erroneous entries. One respondent answered in a diametrically opposite manner to the rest of the respondents. It was not possible to determine whether the respondent misread the response options or did not endorse patient involvement in physiotherapy, therefore this data was included in analyses as it would have had a negligible effect on such a large data set.

5.7 Statistical Analysis

As in the pilot survey, data were negatively skewed. However according to the Central Limit Theorum a large data set such as this can be treated as if it were normally distributed as it is the mean values that are to be compared (Altman, 1991; Tabachnick and Fidell, 2001).

Controversy exists regarding the parametric analysis of Likert data, since it cannot be assumed that the distances between Likert categories are equal (Streiner and Norman, 2003). However, the more points there are in a scale, the more likelihood there is of the labels corresponding to the empirical data (Tabachnick and Fidell, 2001). Hence, a seven point Likert scale was used in this study. Cronbach's alpha values for each sub-scale revealed by the factor analysis fell within recommended limits. Therefore, provided that homogeneity of variance tests were satisfied, the effect of unequal distances would be negligible and hence parametric tests were used (Streiner and Norman, 2003).

Student's t-test was used to compare means between 2 independent samples, whilst univariate analysis of variance (ANOVA) techniques were used to explore differences between more than 2 groups. Tukey's honestly significant difference post hoc test was used to make pairwise comparisons between groups, as it is more powerful than the Bonferroni test or Hochberg's GT2 for large samples (SPSS incorporated, 2005b). Intraclass correlation coefficients were calculated to compare variance within and between NHS Trusts.

Stepwise multivariate regression was used to determine the ability of the dependent variables to predict total PAPI–A score; attitudes towards involvement in treatment planning; and attitudes towards determination of the patient's perspective. As suggested in chapter 4, survey items had poor discriminatory ability, therefore a stepwise option was selected as it revealed only the strongest predictor variables, thereby reducing the likelihood of spurious results (Altman, 1991). Finally, binary logistic regression was conducted to determine whether variables which predicted changes in attitude scores were predictive of agreement with all items in the various sub-scales.

Table 5.1: Demographic characteristics of respondents (n=735)

Characteristics		Sample n (%)
Gender	Male	103 (14.0)
	Female	623 (84.8)
Age (years)	<25	132 (18.2)
	26–30	130 (17.9)
	31-40	196 (27.0)
	41-50	177 (24.3)
	51-60	82 (11.3)
	61+	10 (1.4)
Experience (years)	0-5	220 (30.3)
	6-10	143 (19.7)
	11-20	192 (26.4)
	21-30	136 (18.7)
	31-40	32 (4.4)
	41+	3 (0.4)
Patient Setting	In patient	201 (27.5)
	Out patient	390 (53.4)
	Both	83 (11.4)
	Other	56 (7.7)
Did your physiotherapy training prepare you adequately to communicate effectively with patients?	Yes	363 (49.9)
	No	364 (50.1)
Any specific communication skills training undertaken since qualification?	Yes	324 (44.6)
	No	403 (55.4)
Clinical Specialty	Amputee Rehabilitation	15 (2.1)
	Burns and Plastics	9 (1.2)
	Cardiology	4 (0.5)
	Children	32 (4.4)
	Elderly	95 (13)
	Health Promotion	1 (0.1)
	Learning Difficulties	8 (1.1)
	Medicine	17 (2.3)
	Mental Health	9 (1.2)
	Musculoskeletal	297 (40.7)
	Neurology/ Neurosurgery	75 (10.3)
	Oncology	9 (1.2)
	Orthopaedics	42 (5.8)
	Palliative	7 (1)
	Renal	1 (0.1)
	Intensive Care	54 (7.4)
	Rheumatology	12 (1.6)
	Spinal Injuries	5 (0.7)
	Stroke	43 (5.9)
	Surgery	3 (0.4)
	Women's Health	25 (3.4)
	Other	65 (8.9)

5.8 Results

A total of 735 complete responses were received. Forty nine of the 150 randomly selected Trusts (32.7%) responded to the questionnaire, yielding 210 responses (28.6% of total). The number of responses per Trust ranged from 1 – 24 (mean 4.29). A further 66 Trusts were contacted using the convenience sampling method. Thirteen managers (20%) disseminated the questionnaires generating 60 responses. A total of 268 electronic replies were received, of which 167 (22.7% of total) replies were generated from the interactive CSP website. Postal responses were received from 194 (26.4%) subjects. A further 273 questionnaires (37.1% of total) were returned by hand in a sealed envelope following the screening of the video vignettes, as described in section 7.5. The demographic characteristics of the respondents are listed in table 5.1 above.

5.8.1 Representativeness of the respondents

This section compares the socio-demographic characteristics of the sample with those of the NHS physiotherapy population in order to investigate whether the sample is representative of the UK physiotherapy population (Fowler, 1993).

5.8.1.1 Gender:

The majority of respondents were female (n=623; 84.8%). A 2003 census of qualified NHS physiotherapists (Department of Health, 2003) revealed that 88.1% of the workforce were female. The 3.3% difference between the Department of Health figures and the proportion of female respondents from this survey may be explained by that fact that in 2000, it was recommended that physiotherapy training courses recruit a higher percentage of male students (Graduate Prospects Limited, 2000).

5.8.1.2 Age:

Table 5.2 demonstrates that, whilst the categories are not identical, the survey sample contained a higher proportion of physiotherapists under 25 years of age than there were in the 2003 NHS physiotherapist population (Department of Health, 2003). This may be an anomaly of the sampling frame, however it is more likely to

be a product of an increase in the number of physiotherapy training places (Department of Health, 2001b) which the DOH recommended to satisfy the requirements of the NHS plan (Department of Health, 2000a). The median respondent age group was 31-40 which matched that of the census.

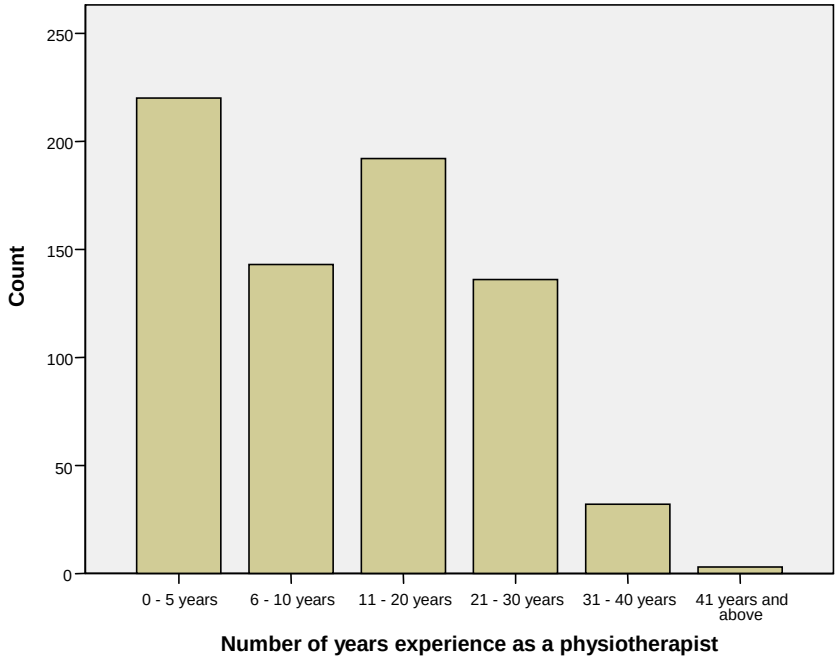
Table 5.2: The relative proportions of survey respondents per age group (n=727) compared with data available from a DoH census of qualified NHS physiotherapists in 2003 (Department of Health, 2003)

Age Categories	Survey sample % (n)	Age Categories	NHS physiotherapist population (%)
≤25	**18.2 (132)**	<25	14.0
26 - 30	**17.9 (130)**	25-29	16.2
31 - 40	**27.0 (196)**	30-39	29.5
41 - 50	**24.3 (177)**	40-49	23.3
51 - 60	**11.3 (82)**	50-59	14.6
≥ 61	**1.4 (10)**	60+	2.5

5.8.1.3 Experience:

Figure 5.1 demonstrates that there were fewer respondents with 6 – 10 years experience than in the 0-5 and 11-20 year categories. At the time of this survey, 80% of Trusts in England and Wales had difficulties recruiting and retaining staff at Senior 2 grade (Nursing and Other Health Professions Review Body, 2004). Senior 2 staff have generally been qualified at least 2-3 years, and have started to acquire more specialist skills. As a female dominant profession, it seems reasonable to expect that it is in this period in their career when staff may take breaks to travel, have a family or seek alternative employment. On this basis, respondents experience appears to be consistent with that of the physiotherapy population.

Figure 5.1: Graphical representation of respondents levels of experience



5.8.1.4 Clinical Specialty

As physiotherapists may treat several different patient groups, some respondents ticked more than one specialty box. Musculoskeletal physiotherapists formed the largest specialty group (40.7%, n = 297), followed by Elderly (13%, n = 95); Neurology/Neurosurgery (10.3%, n=75); and "other" (i.e. community staff, rotational staff, managers 8.9%, n=65). No information was available to indicate the national proportions of physiotherapists per specialty. As fifty two percent of NHS physiotherapists work in the community (Chartered Society of Physiotherapy, 2006), it would seem intuitive to expect higher proportions of physiotherapists who specialise in conditions which are treated in both primary and secondary care, such as musculoskeletal, stroke rehabilitation, and elderly care.

In summary, respondents in this survey demonstrated sample characteristics that were consistent with those of the national NHS physiotherapy population with regard to gender and age. There was no comparative data available for experience or clinical specialty although the data trend was as expected. Therefore the sample could be considered as representative of the national NHS physiotherapy population.

5.9 Homogeneity of variance according to different recruitment methods

As physiotherapists were recruited to the study in a number of ways, it was important to examine whether total attitude scores a) differed according to the recruitment method; and b) varied according to confounding factors within the Trust. The method of recruitment could not be determined for 25 complete sets of data.

5.9.1 Differences according to recruitment method

Figure 5.2 is a boxplot of total attitude scores illustrating differences in median values between respondents who have been grouped by recruitment method. Higher attitude scores denote a greater preference for patient involvement. Scores range from 34 to 138 of a possible 0 to 138.

Figure 5.2: The relationship between total attitude score and method of recruitment

Whilst there is considerable overlap between boxes and whiskers, respondents who were recruited from the interactive CSP website have a slightly higher median value and 25th and 75th percentile total attitude scores than the other three groups. The significance of this difference was determined using univariate analysis of variance

(ANOVA), having first ensured that there was equality of variance across groups using Levene's test of homogeneity. The difference in total attitude score between recruitment groups was significant ($F=8.70_{,(df3,731)}$ $p<0.001$) and amounted to a mean difference of 5 points in total attitude score, as demonstrated in table 5.4.

Table 5.3: Differences between mean total attitude scores for different methods of recruitment

Dependent Variable: Total attitude score. Tukey HSD

(I) Method of recruitment	(J) Method of recruitment	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Interactive CSP	Contact with physio manager	5.44	1.23	<0.001	2.27	8.62
	Direct distribution (vignette)	5.80	1.23	<0.001	2.63	8.97
	Recruitment method unknown	5.59	2.69	0.160	-1.32	12.51

Tukeys posthoc test (table 5.4) demonstrated that the 25 questionnaires, whose recruitment methods were unknown, were homogenous with the responses gained from recruitment by the physiotherapy manager. Accordingly, this data will be incorporated into the main data set.

Table 5.4: Determination of homogeneity between methods of recruitment based on mean total attitude score

Total attitude score

Tukey HSD

Method of recruitment	N	Subset 1	Subset 2
Direct distribution (vignette)	273	111.15	
Recruitment method unknown	25	111.36	
Contact with physiotherapy manager	270	111.51	
Interactive CSP	167		116.95
Sig.		.998	1.000

5.9.2 Comparison of intra and inter-cluster variance

Clusters are groups of subjects, who are likely to generate similar responses because they are subject to similar influences (Campbell and Grimshaw, 1998). As this survey recruited several physiotherapists from each NHS Trust, it was necessary to compare the amount of variance between Trusts with the variance within Trusts using the intracluster correlation coefficient (ICC) (Killip, Mahfoud and Pearce, 2004). Campbell (2004) warned that if ICC values of 0.05 or more are not adjusted for by treating as a covariate, they may result in excessively narrow confidence intervals thus increasing the risk of incurring type 1 or type 2 errors.

In this survey, responses were received from 57 different NHS Trusts (clusters). The number of respondents per Trust ranged from 2 – 48. The ICC was 0.04. Therefore correlated responses within these clusters did not need to be taken into account. However, ICC increased to 0.07when the 167 interactive CSP respondents were included as another cluster, on the assumption that the respondents did not come from any of the previously sampled Trusts. This suggested that responses within the iCSP group were correlated, and should be taken into account in future analyses.

5.10 Ensuring the validity of the proposed PAPI-A factor structure using the national physiotherapist survey data

The data presented in table 5.5, were entered into a principle components factor analysis with Varimax rotation to ensure that the factor structure, proposed in section 4.2.6.6, fit the main data set. Questions 1 - 3, 8 - 10, 13, and 21 - 24 loaded onto several components, and were omitted from the process. Four components with an eigenvalue above 1 matched components 1 - 4 obtained from the pilot data, and explained 68.7% of the variance. The Kaiser – Meyer-Olkin value was 0.85 which exceeded the recommended minimum value of 0.6, and individual values located on the diagonal within the anti-image correlation table exceeded 0.5 (Tabachnick and Fidell, 2001). Bartlett's test of sphericity was significant ($p<0.001$). As two components were comprised of only two items they were insufficiently stable (Tabachnick and Fidell, 2001) to use as independent components. These questions were retained to form the 13 item total PAPI-A score.

Table 5.5: Physiotherapists' questionnaire data per item

Item	Very strongly disagree	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree	Median
1. I believe that I communicate effectively with my patients	2	2	2	3	236	364	126	Strongly Agree
2. Effective communication has as much of an impact on patients health as my intervention	2	1	4	16	158	304	250	Strongly Agree
3. I feel comfortable asking patients questions of a psychosocial nature	1	2	62	88	313	191	78	Agree
4. I should deal with the patient's worries about their problem.	2	1	7	37	208	275	205	Strongly Agree
5. I should listen to everything that the patient has to say about their problem.	1	4	57	59	236	214	164	Strongly Agree
6. I should be interested in what the patient thinks the problem is.	1	1	3	20	187	280	243	Strongly Agree
7. I should be interested in how the problem affects my patient's life.	2	1	0	2	80	318	332	Strongly Agree
8. How the problem affects the patient's life is their affair and has nothing to do with me	446	212	59	8	2	2	6	Very Strongly disagree
9. I should be interested in what the patient wants to know.	0	0	1	7	199	311	217	Strongly Agree
10. I should understand the patient's main reason for coming to physiotherapy	0	1	0	8	152	299	275	Strongly Agree
11. I should treat the patient as an equal.	0	1	12	32	130	186	374	Very Strongly Agree
12. I should be friendly and approachable	0	1	0	3	95	216	420	Very Strongly Agree
13. I should really understand the patient.	0	2	4	62	226	260	181	Strongly Agree
14. I should explain clearly what the patient's problem is	7	10	32	45	177	226	238	Strongly Agree

Item	Very strongly disagree	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree	Median
15. The patient and I should discuss and agree what the problem is together.	0	3	15	41	187	245	244	Strongly Agree
16. I should explain clearly what should be done.	7	15	32	81	189	207	204	Strongly Agree
17. I should be interested in what the patient wants done.	1	1	6	51	254	232	190	Strongly Agree
18. I should be interested in what treatment the patient wants	1	2	31	89	321	178	113	Agree
19. The patient and I should discuss and agree the treatment together.	0	0	6	22	191	258	258	Strongly Agree
20. I alone should decide on the treatment without discussion	333	205	169	17	9	1	1	Strongly disagree
21. Part of my role is to give the patient advice on how to stay healthy in the future.	0	1	1	9	174	286	264	Strongly Agree
22. The patient's future health is their business and has nothing to do with me	308	224	174	19	7	0	3	Strongly disagree
23. I should understand my patient's emotional needs.	1	2	8	53	354	215	102	Agree

The item total values for this, and the two components: *Involvement in treatment planning*, and *Exploration of the patient's perspective* exceed 0.2 as recommended by Kline (1986) and Cronbach's alpha values were between recommended values of 0.7 and 0.9 (Nunnally, 1967).

5.11 Investigation of the proportion of physiotherapists who believe that patients should be involved in physiotherapy consultations.

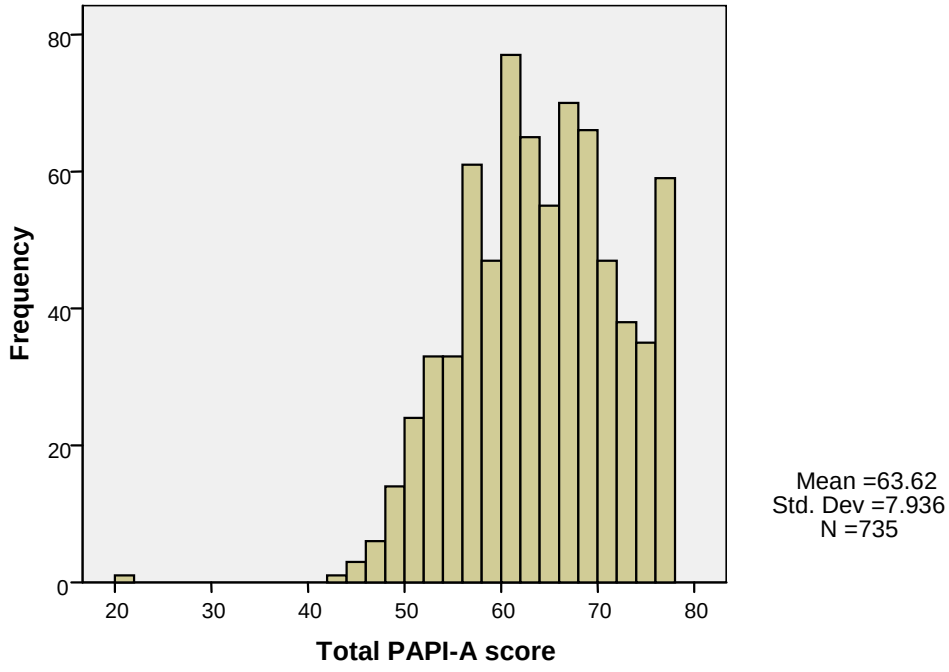
5.11.1 Total PAPI-A score

Figure 5.3 illustrates the distribution of total PAPI-A scores. As stated in section 5.6.2, one outlier existed (PAPI-A=21) which was not removed, as the effect on a

sample of this size would be negligible. Total PAPI-A values ranged from 21 to 78, of a possible 0 to78, with a mean value of 63.62 (SD 7.94).

The proportion of physiotherapists who believe in patient involvement was calculated by selecting only those respondents who agreed with all 13 items of the PAPI-A scale. Hence a respondent who was unable to decide whether to agree or disagree with an item was considered not to have a sufficiently strong belief in that item and was excluded. Hence, 47.8% (n=351) of respondents agreed with all aspects of patient involvement in physiotherapy i.e. agreed with all 13 items. A statistically significant difference was found between PAPI-A scores of those physiotherapists who agreed with all aspects of patient involvement, and the 52.3% (n=384) who did not (t=17.74; df= 733; p<0.001).

Figure 5.3: Distribution histogram of total PAPI-A scores



5.11.2. Involvement in treatment planning (component 1)

Applying the same selection principle as above, 75% (n=552) of physiotherapists agreed with all five items in this component. Scores ranged from 13 – 30, of a possible 0 – 30. The mean score was 25.52 (S.D.2.98). A statistically significant difference in component scores existed between physiotherapists who agreed with all items and those who did not (t=24.6; df=347.14; p<0.001).

5.11.3 Exploration of the patient's perspective (component 2)

Seventy eight percent (n=572) endorsed the four items in this component. Scores ranged from 0 – 24 of a possible 0 – 24. Mean score was 20.59 (S.D. 2.39). A statistically significant difference was found between physiotherapists who agreed with all aspects of this component and those who did not agree with all items ($t=-19.42$, $df= 252.620$, $p<0.001$).

5.12 Predictive validity of physiotherapist variables on total PAPI-A score and its components.

The variables: gender; age; years of experience; specialist area; main caseload (in or out-patients), perception of adequate preparation to communicate with patients on leaving university, and receipt of additional communication skills training, were entered stepwise into linear regression models. Collinearity diagnostics were performed to ensure that relationships between predictor variables did not confound the model. *Perceived competence to communicate with patients* (Item 1 in Table 5.3) lacked discriminatory power as only 1.2% of respondents (n=9) failed to agree. This item was therefore unsuitable to enter as a predictor variable.

5.12.1 Total PAPI-A score

The resultant model was significant ($F_{(7,691)}=11.04$; $p<0.01$), and accounted for 8% of total PAPI-A variance. As the variable "*receipt of additional training"* was predictive of the total PAPI-A score, this was substituted for variables which related to the amount and type of training received. The resultant model, illustrated in table 5.6, was also significant ($F_{(7,691)}=10.87$; $p<0.01$), and accounted for 9% of total PAPI-A variance. This model suggested that a female, womens' health specialist with 25 years experience, who has had 12 days additional communication training which did not include lectures, and was recruited via the interactive CSP website would, on average, score 76.56 points on the PAPI-A. On the other hand, a 23 year old, male, rotational physiotherapist, who had attended a half day, lecture based training course and was recruited by his physiotherapy manager would score on average 60.28 points on the PAPI-A. Possible explanations for this will be discussed in section 5 14.2.

In order to explore the relationship between the predictor variables and *agreement with all PAPI-A items,* a binary logistic regression analysis was conducted. Whilst the resultant model was significant (χ^2= 15. 14, df = 7, p=0.034), none of the independent variables predicted agreement with all items in the PAPI-A.

Table 5.6: Variables which predict physiotherapists' total PAPI-A score

Predictor Variables	Number of physios	Unstandardized Coefficients		t	Sig.
	(n)	B	Std. Error		
(Constant)		64.0	1.45	44.11	<0.001
Extra training involved theoretical lecture	218	-1.73	0.69	-2.52	0.012
Age less than 25	132	-1.98	0.78	-2.55	0.011
Female Physiotherapist	623	2.19	0.83	2.64	0.008
Receipt of 11 or more days of additional training	51	2.92	1.18	2.48	0.013
Women's health specialist	25	4.10	1.61	2.55	0.011
Interactive CSP recruitment	167	1.71	0.72	2.39	0.017
21 - 30 years experience	136	1.65	0.76	2.15	0.032

5.12.2 Predictors of physiotherapists' attitudes towards the "involvement in treatment planning" sub-scale.

The resultant model, was significant ($F_{(6,682)}$=15.54; p<0.001), and accounted for 11.3% of variance in this model. As in 5.12.1, receipt of extra communication training was predictive of a higher attitude score, and was therefore replaced by amount and type of additional training. This significant model ($F_{(7,691)}$=14.84; p<0.001), presented in table 5.7, accounted for 12.2% of variance in the criterion variable. The predictive variables are similar to those above, except that surgical specialists are likely to score, on average, 4.6 points lower on this sub-scale. This finding may be unreliable as it is based on only 3 physiotherapists.

Table 5.7: Variables which predict physiotherapists' attitudes towards the "*involvement in treatment planning*" sub-scale

Predictor Variables	Numbers of Physios	Unstandardized Coefficients		t	Sig.
	(n)	Beta	Std. Error		
(Constant)		24.58	0.68	35.98	<0.001
Extra training involved theoretical lecture	218	-1.04	0.32	-3.22	0.001
Age less than 25	132	-1.36	0.37	-3.71	<0.001
Female physiotherapist	623	1.29	0.39	3.31	0.001
21 - 30 years experience	136	0.99	0.36	2.75	0.006
Receipt of 11 or more days additional training	51	1.25	0.56	2.26	0.024
Interactive CSP recruitment	167	0.78	0.34	2.32	0.020
Surgery specialist	3	-4.61	2.05	-2.25	0.025

The predictor variables above were then logistically regressed against the binary variable *agreement with all involvement in treatment planning items*, as illustrated in table 5.8. The resultant model was significant (χ^2= 48.61, df = 7, p<0.001). Adjusted R^2 suggested that the model explained between 6.7 and 10% of variance in the criterion variable. The model successfully predicted 97.7% of physiotherapists who agreed with all involvement in treatment planning items, and only 4.1% of those who did not agree. The overall accuracy of prediction was 74.7%. Hence, the odds of a female physiotherapist over the age of 25, who was recruited via the interactive CSP website, and has not attended a lecture in communication skills agreeing with all aspects of involvement in treatment planning are much higher, than those of a male colleague of less than 25 years of age who had attended a lecture in communication and who was given the questionnaire by his manager to complete.

Table 5.8: Variables which predict agreement with all "*involvement in treatment planning*" items

Predictor Variables	B	S.E.	Wald	df	Sig.	Exp(B)
Recruited from interactive CSP	0.72	0.27	6.96	1	0.008	2.06
Female	0.62	0.24	6.74	1	0.009	1.85
Aged less than 25	-0.47	0.22	4.40	1	0.036	0.63
Extra training involved theoretical lecture	-0.55	0.24	5.14	1	0.023	1.73
Constant	0.35	0.23	2.46	1	.12	1.42

5.12.3 Predictors of physiotherapists' attitudes towards the "exploration of the patient's perspective" sub-scale

Again, a significant model emerged ($F_{(5,683)}$=10.81; p<0.001), as shown in table 5.9, which accounted for 6.7% of variance.

Table 5.9 Variables which predict physiotherapists' attitudes towards the "*exploration of the patient's perspective*" sub-scale

Predictor variables	Number of physios	Unstandardized Coefficients		t	Sig.
		B	Std. Error		
(Constant)		18.06	0.33	54.91	<0.001
Recruited from interactive CSP	167	0.90	0.27	3.37	0.001
Treats out patients only	390	0.98	0.22	4.39	<0.001
Female	623	0.83	0.32	2.57	0.010
Mental Health specialty	9	2.29	0.98	2.32	0.020
21 - 30 years experience	136	0.63	0.29	2.20	0.028

Additional training was not predictive of attitudes towards this component, hence no further linear regression was undertaken.

Binary logistic regression was conducted to investigate whether agreement with all

items concerned with the exploration of the patient's perspective could be predicted by any of the above variables.

The resultant model was significant (χ^2= 19.68, df = 5, p<0.001), however, the prediction success rate after the variables had been added, was no better than before. Therefore this model is redundant as it does not help to predict agreement with the importance of determining the patient's perspective.

The implications of the predictive nature of these variables on physiotherapy practice are discussed in section 5.14.2 of this chapter.

5.13 Physiotherapists' beliefs regarding the relative importance of aspects of patient involvement

In this section, 24 replies were omitted because respondents were unwilling to assign ranks, whilst 33 respondents returned this section blank. The majority of respondents (92.3%; n=679) completed the form correctly. Respondents were asked to assign ranks to indicate which they believed were the most and least important, and which came second and third in importance. Overall placings were assigned by identifying the items which had the highest response frequencies in each ranking i.e. 1st, 2nd, 3rd and least important.

Table 5.10 illustrates that physiotherapists believe the most important aspect of patient involvement is to *"give the patient the opportunity to describe their problem in their own words"* (n= 190). This item also received the highest ranking for secondary importance (n = 106). Third highest ranking was assigned to *"involve the patient in setting treatment goals so that they are based on what the patient feels are the main problems"* (n = 113). The item of least importance was *"to address the patient by the name of their choice"* (n=285).

Table 5.10 Response frequencies indicating physiotherapists' beliefs regarding the relative importance of aspects of patient involvement

ITEM	Most Important	Second Importance	Third Important	Least Important
A. To address the patient by the name of their choice	31	30	18	282
B. To give the patient the opportunity to describe their problem in their own words.	190	106	79	6
C. To enable the patient to express how their problem has affected their work, family and social life.	42	85	96	14
D. To discuss what is on the patient's mind e.g. worries about their problem etc.	13	44	67	42
E. To give the patient the opportunity to be involved in decisions about their physiotherapy treatment	34	92	99	15
F. To give a physiotherapy programme which has been designed to suit the patient's lifestyle and home circumstances	69	81	84	31
G. To involve the patient in setting treatment goals so that they are based on what the patient feels are the main problems	117	87	113	14
H. To listen to the patient with interest and without interruption.	40	41	25	156
I. To give the right amount of information about the patient's problem in a way that is easy to understand.	38	70	62	25
J. To treat the patient as an equal	112	49	35	69

5.14 Discussion

This chapter described the conduct of a national survey of physiotherapists, using the PAPI-A questionnaire, to explore physiotherapists' attitudes towards the involvement of patients in physiotherapy consultations.

5.14.1 What proportion of NHS physiotherapists believe that patients should be involved in physiotherapy consultations?

In section 5.11.1 it was found that 48% of participating physiotherapists (n= 351) agreed that patients should be involved in all aspects of the consultation as measured by the PAPI-A.

In section 5.13 it can be seen that physiotherapists believed that giving patients the opportunity to describe their problem in their own words, was the first and second most important aspect of patient involvement. This finding is supported by the fact that 78% (n=572) of physiotherapists agreed with all items on the PAPI-A sub-scale (component 2); *Exploration of the patient's perspective*. Physiotherapists considered involving the patient in setting treatment goals as third important, which accords with the finding that 75% (n=552) of physiotherapists believed that patients should be involved in all aspects of the treatment planning (component 1). These findings are consistent with attitudes of other health professionals towards patient involvement (Nordholm, Adamson and Heard, 1995; Entwistle, Watt, Bugge *et al.*, 2002; Jones, Berney, Kelly *et al.*, 2004).

Section 5.8.1 established that the demographic characteristics of this sample are comparable with what is known of the NHS physiotherapy population. This suggests that the results of the survey are representative of NHS physiotherapists' attitudes towards patient involvement. Certain specialty groups e.g. surgery, appeared to be under-represented in this sample. However, the proportions of physiotherapists nationally who represent each specialty group are unknown. It is possible that those who treat surgical patients were in fact better represented, but because they may spend more of their time with other groups of patients, such as amputees, the physiotherapists would have registered this as their specialty area.

The proportion of respondents who agreed with all items on the PAPI-A was much lower than the proportion who agreed with all items in each of the two PAPI-A sub-scales. This must be attributable to the 4 additional items which formed the PAPI-A scale. These factored into two components which were insufficiently stable to be used as components in their own right (Tabachnick and Fidell, 2001). One of these items (number 16), *"I should explain clearly what should be done"*, accrued the

highest number of neutral or negative responses (n=135). As it factored with item 14, *"I should explain clearly what the patient's problem is"*, the inference is that most respondents interpreted these items in a similar manner. In this case, item 16 may have been interpreted as *"Should the physiotherapist offer the patient clear explanations regarding possible management options?"* However, in comparison with questions 15 and 17, which refer to the physiotherapist's collaboration with the patient, question 16 appears directive. Hence the physiotherapists, who responded negatively to this item, may have thought that it suggested that the physiotherapist alone should decide what should be done. Thus if the PAPI-A were to be used in another study, it is recommended that this item be removed due to its potentially ambiguous nature.

Conversely, another of the 4 additional items (number 12) *"I should be friendly and approachable"*, received the highest item endorsement (99.5% of physiotherapists). The original *patient preference for a patient centred approach* questionnaire (Little, Everitt, Williamson *et al.*, 2001) was criticised, following publication, on the grounds that it was unrealistic to expect a respondent to oppose any item i.e. *"I should not be friendly and approachable"* (Skelton, 2001). However, every individual has a different understanding of what is held true (Dwyer and Limb, 2001), as demonstrated by the fact that one physiotherapist disagreed with this item, and three were uncertain whether to agree or not. On this basis the questionnaire was considered to be of value.

5.14.2 Can physiotherapists' attitudes towards patient involvement be predicted?

The regression models generated in section 5.12 only accounted for between 6.7 and 11.3% of variance in attitude scores, however for each of the linear regression models, ANOVA suggested that the models explained significant proportions of the variability (Altman, 1991).

No variables predicted agreement with all items in the PAPI-A, or its sub-scale, *Exploration of the patient's perception of their problem.* However, being female, and having accessed the survey from the interactive CSP website increased the odds of agreeing with all items in the *Attitudes towards patient involvement in treatment*

planning sub-scale. Whereas, being less than 25 years of age, and having attended a lecture in communication skills reduced the odds of agreeing with all items in this sub-scale.

Two variables predicted higher attitude scores in the PAPI-A and both of its sub-scales. These were female gender and having responded to the survey through the interactive CSP website. This suggests a clear disadvantage in using the interactive CSP website to disseminate attitude surveys as respondents are non-random i.e. those who responded did so because they had strong beliefs regarding the importance of patient involvement in physiotherapy.

The relationship between physiotherapists' gender and their attitudes towards patient involvement has not previously been investigated. However, surveys which have investigated physiotherapists' beliefs about what makes therapy work (n=187) (Stenmar and Nordholm, 1994), and their attitudes towards professional practice (n=558) (Nordholm, Adamson and Heard, 1995), both found female physiotherapists to be more patient –orientated than their male counterparts. Hence it appears that the findings of this study are consistent with previous research.

Being aged 25 or less reduced the odds of having a higher PAPI-A score, or a higher score on the *involvement in treatment planning* sub-scale. This is not consistent with the suggestion that shortly after graduation, physiotherapists are more orientated towards the development of mutual relationships with their patients (Dahlgren, 1998). It is the author's experience that newly qualified physiotherapists are often expected to become familiar with new diagnostic and treatment techniques very quickly. It is therefore possible to understand why some newly qualified physiotherapists may believe that they possess more knowledge than the patient, and hence they should be the one who formulates the treatment plan.

The odds of physiotherapists with 21-30 years of experience accruing higher scores in the PAPI-A and its sub-scales were greater than for physiotherapists with other amounts of experience. At this stage in their career, it is possible that some physiotherapists have come to appreciate the wealth of experience which patients bring to the consultation, and have practiced long enough to realise the value of the

therapeutic relationship. These therapists also have greater life experience, which means that they are more likely to have experienced the healthcare system as a patient or carer, and may therefore have experienced the frustration of not being involved in important decisions.

It is of interest to note that different clinical specialties predicted either higher or lower scores in the PAPI-A, and in each of the different sub-scales. However, as the numbers of physiotherapists representing each of these specialties are small in comparison with the overall sample size, these findings should be treated with caution.

The fitted regression models suggested that training needs to be in excess of 10 days in order to increase the likelihood of having positive attitudes towards patient involvement in physiotherapy, whilst attendance at a lecture predicted a drop in attitude, albeit of 1-1.73 points in attitude. As most of the 324 respondents who had received additional training had attended a lecture (n=218), and all bar 21 had been trained using a number of techniques, it is possible that may be a statistical anomaly of the large sample size (Altman, 1991). Alternatively, it may suggest that these physiotherapists were more likely to detect the ambiguities in the questionnaire (e.g. item 16), and would have used more neutral or negative responses.

It is also possible that physiotherapists who have attended 11+ days of training have done so because they already have a patient-centred attitude and attended a number of courses to improve their practical skills.

5.14.3 Other interesting findings

Three additional items (Questions 1, 2 and 3) were included in the 24 item questionnaire, although they did not load onto any one component, and were subsequently excluded from the PAPI-A. Table 5.5 shows the distribution of responses for these items. The item, "*I believe that I communicate effectively with my patients*", received 99% agreement, yet only 48% of those physiotherapists agreed with all items on the PAPI-A. This infers that the other 52% of physiotherapists' conceptualise effective communication in terms which do not

empower the patient. One percent of physiotherapists, who believe that they communicate effectively, do not agree that they should understand their patient's emotional needs; 1% do not believe that they should deal with patient's worries, and 7.4% do not believe that they should listen to everything that the patient has to say. This suggests that for some physiotherapists effective communication does not involve consideration of the psychosocial aspects of care; a finding which is consistent with the work of Sluijs (1991). Traditionally the physiotherapeutic view of communication was as a "social skill" (Dickson and Maxwell, 1985; Dickson and Maxwell, 1987); and for some, this view may persist.

5.14.4 Strengths of the Study

As no other published studies could be found which explored the extent of NHS physiotherapists' attitudes towards patient involvement, the results of this study provide a unique insight into the attitudes of qualified physiotherapists. This was a rigorous study which, in most respects, represented the views of NHS physiotherapists. Whilst the predictor variables only accounted for small changes in attitude, they provide evidence of trends in the data that are worthy of further study.

5.14.5 Limitations of the study

Electronic surveys depend upon the population having electronic access, and being technologically competent. A number of responses were lost due to software incompatibility and because some physiotherapists were not sufficiently computer literate. The disadvantages of electronic surveys are that the response rate cannot be determined since the numbers of people who access the questionnaire are unknown. Rigorous checking was also necessary to ensure that respondents do not submit the questionnaire more than once.

Responses to the PAPI-A were negatively skewed leading to a lack of discriminant ability. The skew may indicate that the wording of the questions led respondents to give the most socially desirable responses (Streiner and Norman, 2003). It is therefore recommended that the wording of the PAPI-A questions are altered so as to be less leading before it is used in further research.

Attitude questionnaires are based on the assumption that respondents have an attitude towards the issue which they can identify and access (Fife-Schaw, 1995). It is possible that a physiotherapist has not previously considered his/her views on patient involvement, and may not be able to form an opinion. In this case the respondent may select a neutral response. In order to discover the proportion of physiotherapists who believed that patients should be involved in physiotherapy consultations, only those who agreed with all items were included. It is recognised however, that given more time, and the ability to debate their views, more than 48% of physiotherapists may have agreed with all items on the PAPI-A.

5.15 Conclusions

This study has investigated an aspect of physiotherapy which has not previously been explored. It suggests that on the whole physiotherapists support patient involvement in the consultation, patients' involvement in formulating treatment decisions and in exploring patient's perceptions of their problem. Physiotherapists believed that allowing the patient to share their view of their problem in their own words was the most important aspect of patient involvement. Whilst predictive variables only accounted for between 6.7 and 11% of total variance, the models suggest that physiotherapists' attitudes towards patient involvement may be influenced by their age, years of experience, gender, area of specialism and receipt of additional training.

Chapter 6:
A local survey of patients' attitudes towards involvement in the physiotherapeutic consultation

6.1 Introduction

Patient involvement requires the commitment of both patient and professional to succeed (Britten, 2003). The extent to which the patient participates in the consultation, may depend upon the patient's belief about their role, and that of the physiotherapist (Buetow, 1998). This chapter describes the dissemination and results of a local survey used to investigate patients' attitudes towards their involvement in the physiotherapy consultation.

6.2 Research Aims:

The purpose of this study was to answer the following questions:

a) What proportions of local physiotherapy out-patients believe that they should be involved in their physiotherapy consultations?

b) Can patients' attitudes towards patient involvement be predicted by variables such as depression, anxiety, locus of control, enablement, age, gender, chronicity of the problem, previous physiotherapy, educational level, employment status, marital status and award of a sick or disability certificate?

c) Do patients and physiotherapists have similar attitudes and beliefs regarding patient involvement?

6.3 Method

6.3.1 Research Design

A paper based survey was conducted of a local sample of patients who had also consented to be videotaped in their initial consultation with a physiotherapist as part of the study described in chapter 8.

Ethical approval was granted by the Local Research Ethics Committee, and research governance was assessed by the respective Trusts' research and development committees.

6.3.2 Questionnaire Design

The patients' questionnaire booklet, illustrated in appendix 3, consisted of 6 sections. Section one was the 14 item version of the PAPI-B questionnaire as discussed in chapter 4.

As patient participation is thought to be associated with perceived control over the condition (McCann and Weinman, 1996; Harrington, Noble and Newman, 2004), the second section of the questionnaire was the *Multidimensional health locus of control scale(MHLC)* (Wallston, Wallston and DeVellis, 1978). This validated tool measures the extent to which patients believe that they are responsible for control of their health (internal control), and the extent to which they apportion control of their health to powerful others or to chance.

The *Hospital Anxiety and Depression Scale* (HADS) (Zigmond and Snaith, 1983) was included as it is believed that depression adversely affects patient participation (Swain, 2004). This validated (Snaith, 2003) scale has two stable subsections: anxiety and depression (Bjelland, Dahl, Haug *et al.*, 2002).

Enablement is defined as helping a patient to achieve something meaningful (Stewart, 1994). This results from the involvement and consequent empowerment of the patient (Street and Voigt, 1997; Klaber Moffett, 2000; Harrington, Noble and Newman, 2004). Hence, the *Patient Enablement Index* (PEI) (Porter, 1997) was included in section 4. This 6 item scale has three scoring categories of which two reflect improvement, whilst the third category indicates deterioration or no change. Scores are summed to give a total, with higher values indicating greater enablement (Howie, Heaney, Maxwell *et al.*, 1998).

Section 5 was a ten item instrument which was designed for the purpose of comparing physiotherapists' and patients' beliefs about the relative importance of

aspects of patient involvement.

Section 6 contained demographic questions regarding the patients' gender, age, employment status, marital status, educational attainment and possession of a recent sick certificate or disability benefit, as used in the studies by Little et al (2001). It also enquired about the chronicity of the problem and whether the patient had previously received physiotherapy for this or any other problem.

6.4 Sample

Patients who consented to be videotaped as part of the local observational study, described in chapter 8, were also invited to complete the PAPI-B.

6.4.1 Inclusion and Exclusion Criteria

Physiotherapists serve a large and diverse population. In order to minimise the chance of extraneous variables influencing attitudes and involvement in the consultation, only those patients who could attend for an out-patient appointment on the premises of the Hull and East Yorkshire Hospitals Trust or Therapy Partnership Group, East Yorkshire Primary Care Trust were included. Such clinics were run for patients who had been referred with cardio-respiratory, neurological or musculoskeletal problems. In-patient consultations and consultations conducted in a patient's home were excluded, as there is evidence that the power differential between patient and professional is enhanced in the former (Waterworth and Luker, 1990) and diminished in the latter (Hale, Bennett, Bentley *et al.*, 2003).

Patients had to be:

- over 18 years of age,
- able to be seen on NHS Trust premises,
- able to communicate in the English Language

Patients were excluded from the study if they

- required hospital transport
- were under 18 years of age.
- had communication difficulties such as significant deafness, or expressive or

receptive language problems.

- were unable or unwilling to complete the self-administered questionnaires independently.
- had a condition which would be too embarrassing or distressing for the patient to discuss in front of a video camera. E.g. continence problems.

6.4.2. Sample size

Eight physiotherapists representing each clinical area were to identify four consenting patients from the top of their respective waiting list for inclusion in the study. Using these criteria the proposed sample size was 96 patients.

6.4.3. Sample frame and design

A purposive sampling procedure was used. Patients from the top of the respective waiting lists who fulfilled the inclusion criteria were identified by the participating physiotherapists. These patients were sent a package containing:

- acknowledgement of the referral (Appendix 10),
- an information leaflet about the study (Appendix 11),
- information about the Institute of Rehabilitation.

Patients were contacted by the physiotherapist or receptionist two weeks later to offer an appointment, and to enquire whether the patient would be willing to participate in the study. Details of patients willing to participate were passed to the researcher, and a meeting was arranged to discuss final details and to obtain written consent. Patients unwilling to participate proceeded with their physiotherapy appointment as arranged. This procedure was repeated until each participating physiotherapist had been successfully videotaped in consultation with four patients. Occasionally physiotherapists had to recruit a fifth patient if, for some reason, the video-recording of the consultation was unable to be used.

6.5 Questionnaire Dissemination

Patients, who wished to be involved in the study, were seen by the researcher fifteen minutes before their scheduled appointment to answer any final questions, and to

ensure that the inclusion criteria were satisfied. Patients were given the questionnaires in a stamped addressed envelope prior to the consultation, because experience indicated that they were in a hurry to leave once the consultation had finished. As patients would not have sufficient time to complete the questionnaires prior to the consultation, they were instructed to keep the questionnaires in the envelopes until after the consultation, to avoid any undue influence on the physiotherapists' consultation techniques. The questionnaires were completed at home and returned in the stamped addressed envelope provided.

The physiotherapists did not complete their attitudes questionnaire until all patient videos had been completed. The Ethics committee did not consider it necessary for the researcher to keep patient details, therefore it was not possible to compare the demographic characteristics of those who participated and returned their questionnaires with those were either unwilling to participate or failed to respond. Patients were identified by code numbers which linked them to the clinic site, the physiotherapist who saw that patient, and the condition group e.g. musculoskeletal. Reminders for unreturned questionnaires were distributed three weeks after the initial consultation via the consulting physiotherapist.

6.6 Results

Whilst the proposed sample size was 96 patients, at the time of the study only four neurological physiotherapists could be recruited. The total number of patients recruited was thus 86. This figure included the patients whose consultation videotape was unable to be used since they had agreed to complete the questionnaire booklet. The response rate was 84.9% (n=73) which compared favourably with the original (Little, Everitt, Williamson *et al.*, 2001) post consultation patient response rate of 76%. The deficit in responses and poor recruitment for this study led to an overall shortfall in patient responses of 24%.

6.6.1 Representativeness of cardio-respiratory sample

Table 6.1 demonstrates that the 29 cardio-respiratory patients were predominantly male, over 65 years of age and lived with a partner/spouse. Most left school at 16 or before, had no qualifications, were currently not in paid employment, and hence the

majority did not need a sick certificate. Just over half had no previous experience of physiotherapy, and 82.1% considered their condition to be acute. As 76% of the patients in this group had attended for cardiac rehabilitation, the age and gender characteristics match the demographic profile of a patient with cardiac problems (Sapsford, Lawrance, Dorsch *et al.*, 2003).

6.6.2 Representativeness of musculoskeletal sample

The 31 musculoskeletal respondents were predominantly female, under 65 years of age, living with a partner/spouse. Most left school at 16 or before, had no qualifications, were currently not in paid employment, and thus did not need a sick certificate. Just over half (53%) considered their condition to be chronic. The majority had received previous physiotherapy for this or another condition. The sample for this clinical group was obtained from three different clinics across the City, in order to capture a cross-section of the population. The characteristics above match the expected profile for residents from Kingston upon Hull as it is recognised as having relatively high levels of social deprivation and poor educational attainment (Audit Commission, 2002). Therefore the views expressed by this sample may not reflect those of patients with higher educational attainment, and from better socio-economic areas.

6.6.3 Representativeness of neurological sample

As there are only 13 respondents in this group they are unlikely to represent neurological physiotherapists' out-patient caseloads. The modal characteristics of this group were male, over 65 years of age and living with a partner/spouse. Most had left school at or before 16, gained vocational qualifications, and were retired or not working at the time of the survey. Most (54%) considered their condition to be acute, yet several claimed disability allowance and had received previous physiotherapy care. This suggests that these patients considered their problem to be an acute exacerbation of a long standing condition.

Table 6.1 Sociodemographic characteristics of patient respondents according to clinical problem (n=86)

		Cardio-Resp. (n=29) (%)	Musculo-skeletal (n=31) (%)	Neurology (n=13) (%)	Statistical test and difference between groups
Extent of problem	Acute	82.1	46.7	53.8	*p=0.014** (a)
	Chronic	17.9	53.3	46.2	
Had previous physiotherapy	Yes	46.4	61.3	76.9	*p=0.166* (b)
	No	53.6	38.7	23.1	
Gender	Male	75	29	69.2	*p<0.001*** (b)
	Female	25	71	30.8	
Age	64 or less	32.1	67.7	30.8	*p=0.01*** (a)
	65 and above	67.9	32.3	69.2	
Currently in paid employment	Yes	21.4	41.9	23.1	*p=0.215* (a)
	No	78.6	58.1	76.9	
Marital status	Lives with spouse/ Partner	79.3	74.2	84.6	*p=0.809* (a)
	No spouse/ Partner	20.7	25.8	15.4	
Number of years full time education since age of 10	≤6 years	87.5	66.7	81.8	*p=0.221* (a)
	>6 years	12.5	33.3	18.2	
Highest qualification received	None	48.3	45.2	18.2	*p=0.048** (a)
	Vocation award	20.7	6.5	54.5	
	CSE/ O/ GCSE/ A levels	20.7	25.8	18.2	
	Graduate/ Postgrad.	6.7	16.1	9.1	
Sick Certificate Claimed within last month	Yes	23.1	23.3	11.1	*p=0.84* (a)
	No	76.9	76.7	88.9	
Disability. Benefit claimed within last month	Yes	17.4	12	53.8	*p=0.009*** (a)
	No	82.6	88	46.2	

** significant at 5% level; ** significant at 1% level*

a=Pearson chi squared test using exact option; b = Pearson chi squared test without exact option

6.6.4 Homogeneity of socio-demographic characteristics across condition groups

Table 6.1 illustrates that statistically significant differences existed between condition groups for the variables: *extent of problem; gender, age, highest qualification received; and number of disability benefit claims made in the last month.* This suggests that *condition group* should be entered into any regression analyses when assessing the predictive value of the above variables.

6.7 Missing Data

Data entry was conducted by the researcher as responses were returned, and a second full entry was conducted at the end of the survey by an independent person. Each questionnaire pack consisted of 83 items to be entered. Of a total of 6059 entries, 5 inconsistencies were found (0.1% error), which were traced back to the original data and corrected.

Missing data was pursued in two cases because the respondents had missed full pages. In another case the entire questionnaire pack was returned uncompleted. This was assumed to be a clear refusal to provide information and the respondent was not pursued. The protocols for handling missing data for each of the validated scales were followed, if such protocols existed. Where protocols were unavailable, missing data was substituted by the mean of the remaining items in that subscale or scale, corrected to the nearest integer, provided that over half of the items were present (Tabachnick and Fidell, 2001).

6.8 Statistical analysis

Table 6.2 presents the raw data received in response to the patient attitudes questionnaire. As the data set was small (n=73), tests for normal distribution for the variable *total attitude score* were necessary (Altman, 1991). The data was minimally skewed (-0.06) and kurtotic (0.043). (p= 0.759). The data were recoded to collapse the lower end of the scale, as recommended by Streiner and Norman (2003). This reduced the kurtosis (0.005) and as the Shapiro-Wilks test was not significant (p=0.724) it was not possible to reject the hypothesis that the data came from a normal distribution (Pereira-Maxwell, 1998).

Table 6.2 Patient data per item as received (n=73)

Item	Very strongly disagree	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree	Median
1. Effective communication has as much of an impact on my health as the physiotherapy treatment.	0	0	2	6	36	17	12	Agree
2. I feel comfortable answering questions of an emotional or social nature	0	2	7	5	42	8	9	Agree
3. I want the physiotherapist to deal with my worries about my problem.	0	0	8	12	30	14	9	Agree
4. I want the physiotherapist to listen to everything I have to say about my problem.	0	0	2	8	34	14	15	Agree
5. I want the physiotherapist to be interested in what I think the problem is.	0	0	4	6	42	12	9	Agree
6. I want the physiotherapist to be interested in how it affects my life.	0	1	3	9	30	18	12	Agree
7. How it affects my life is my affair and has nothing to do with the physiotherapist.	17	14	30	7	4	1	0	Disagree
8. I want the physiotherapist to be interested in what I want to know.	0	0	3	0	48	13	9	Agree
Item	Very strongly disagree	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree	Median
9. I want the physiotherapist to understand my main reason for coming to physiotherapy	0	0	1	2	43	18	9	Agree

10. I want the physiotherapist to treat me as an equal.	0	0	2	3	46	8	14	Agree
11. I want the physiotherapist to be friendly and approachable	0	0	0	1	42	13	17	Agree
12. I want to feel really understood by the physiotherapist.	0	0	0	7	42	12	12	Agree
13. I want the physiotherapist to explain clearly what the problem is	0	0	0	1	28	22	22	Strongly Agree
14. I want the physiotherapist and I to discuss and agree what the problem is together.	0	0	3	4	36	19	11	Agree
15. I want the physiotherapist to explain clearly what should be done.	0	0	0	0	28	19	26	Strongly Agree
16. I want the physiotherapist to be interested in what I want done.	0	0	9	7	39	12	6	Agree
17. I want the physiotherapist to be interested in what treatment I want.	0	1	7	5	39	12	9	Agree
Item	Very strongly disagree	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree	Median
18. I want the physiotherapist and I to discuss and agree the treatment together.	0	0	3	2	42	15	11	Agree
19. The physiotherapist alone should decide on the treatment without discussion	5	13	43	2	7	3	0	Disagree
20. The physiotherapist's role is to give advice on how to stay healthy.	0	0	1	7	36	17	12	Agree

21. My future health is my business and has nothing to do with the physiotherapist.	12	13	37	7	4	0	0	Disagree
22. I want the physiotherapist to understand my emotional needs.	0	1	7	20	34	10	1	Agree
23. I want advice on what I can do.	0	0	1	2	35	21	14	Agree

Where Levene's test of equality of variance was satisfied, parametric tests, such as Pearson's Product Moment Correlation coefficient (r) and Analysis of Variance (ANOVA) were therefore used. Student's t-test was also conducted. Non-parametric tests such as Kruskall-Wallis and Spearman's correlation coefficients were employed if variances were encountered in distribution of the variables.

6.9 Determining the validity of the factor structure

As there were only 73 sets of data this was insufficient to conduct a factor analysis (Tabachnick and Fidell, 2001). Hence the factor structure obtained in section 4.2.7.4 using the pilot sample of patients who received physiotherapy in the last three years, was applied to the main patient data set. The 14 item PAPI-B attitudes scale and the three sub-sections satisfied rules for homogeneity, and reliability (Nunnally, 1967).

6.10 Comparison of intra and inter-cluster variance

As patients completed the questionnaires following their consultation, it was possible that the physiotherapist's manner might have influenced the patients' responses. The intra-cluster correlation coefficient for the total PAPI-B score was 0.175. This value exceeds that of 0.05, recommended by Campbell (2004), and hence the physiotherapist should be treated as a random factor in any analyses.

6.11 Proportion of patients who have a positive attitude towards patient involvement in physiotherapy.

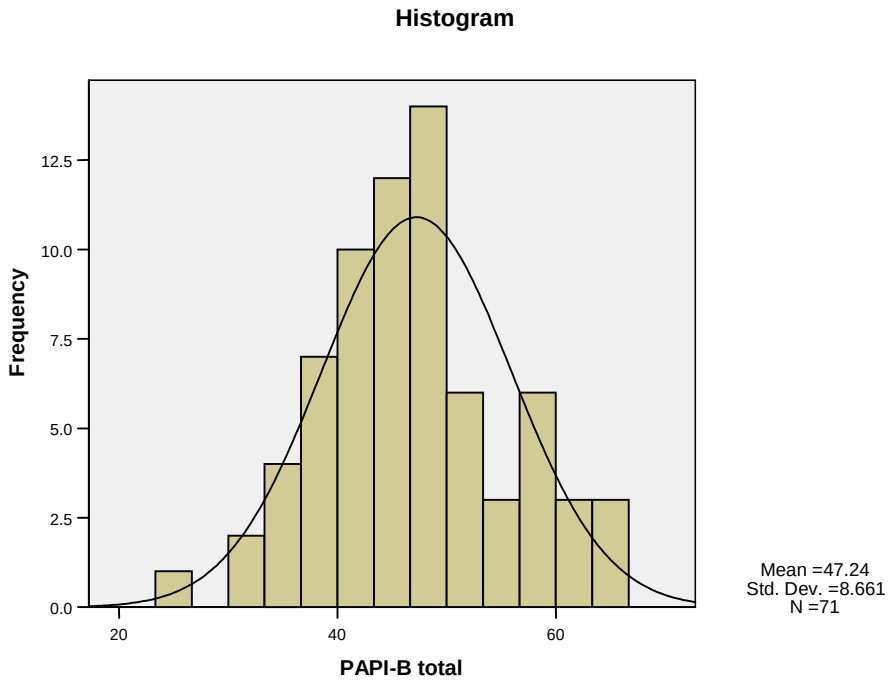
6.11.1 Total PAPI-B score

Figure 6.1 shows the distribution of total PAPI-B scores. One outlier existed (PAPI-

B = 24) however this was left in the data as the respondent had completed all questions. Total PAPI-B values for this data set ranged from 24 to 66, of a possible 0 – 70, with a mean value of 47.24 (SD 8.66).

The proportion of patients who positively supported all aspects of involvement in physiotherapy i.e. all 14 items, was 43.8% (n=32). The PAPI-B contained two negatively worded items (7 and 21). In each case, disagreement with each item was considered to indicate a belief in patient involvement. A statistically significant difference ($t= -4.86$; $df= 69$; $p<0.0005$) was found between mean PAPI-B score for those patients who agreed with all aspects of patient involvement ($\bar{x}$ =52.03, SD=7.195) and the 56.2% (n=41) who did not ($\bar{x}$ =43.31, SD=7.794). This indicates that a clear difference existed between the attitudes of the two groups of patients i.e. those who agreed with all aspects of patient involvement and those who did not.

Figure 6.1 Distribution histogram of total PAPI-B scores



6.11.2 Patients' attitudes towards the development of a therapeutic relationship with the physiotherapist (component 1).

Eighty four percent of patients (n=62) agreed with all 4 items in component 1. Scores ranged from 12 – 20 of a possible 0 – 20 ($\bar{x}$ =14.61, SD=2.82). A statistically significant difference (t= -6.16; df= 21.87; p<0.0005) was found between the mean score for those patients who agreed with all aspects of the therapeutic relationship, and the 11 who did not ($\bar{x}$ =10.82, SD=1.66).

6.11.3 Patients' attitudes towards involvement in treatment planning (component 2)

Most patients 74% (n=54) agreed with all 3 items in this scale. Scores ranged from 9 – 14 of a possible 0 – 15 ($\bar{x}$ =10.65, SD=1.73). The difference between mean scores for the above group and those who did not agree with all items ($\bar{x}$ =7.39, SD=1.79) was statistically significant (t= -6.87; df= 70; p<0.0005).

6.11.4 Patients' attitudes towards the need to explore the patient's perspective of their problem (component 3)

Fifty six patients (76.7%) agreed with the 3 items in this scale. Scores ranged from 9 – 15, of a possible 0 – 15 ($\bar{x}$ =10.73, SD=1.93). Mean scores for patients who agreed with all items in this sub-scale ($\bar{x}$ =7.5, SD=2.07) differed significantly from those who failed to agree with all items (t= -5.82; df= 70; p<0.001).

6.12 Predictive validity of patient variables on total PAPI-B score and its components.

6.12.1 PAPI-B score

As the number of potential predictor variables (n=16) exceeded the recommended participant to variable ratio of 10:1 (Brace, Kemp and Snelgar, 2003), associations between individual variables and total PAPI-B score were tested using either student's t-test, Pearson's Product Moment Correlation coefficient (r) or Analysis of Variance (ANOVA), depending upon the level of measurement. The only statistically significant association detected was with *marital status* (t=-3.005, df=69, p=0.004). The proportions of patients who lived alone, and lived with a partner were comparable across condition groups. Hence, it was not necessary to enter the variable, *condition group,* as a covariate, as suggested in section 6.6.4. *Marital status* (predictor variable) and *total PAPI-B score* (criterion variable) were entered into a linear mixed models analysis with *physiotherapist* entered as a random effect. The influence of the physiotherapist was not significant (Wald Z = 0.4, p=0.689). The resultant model, illustrated in table 6.3, was significant ($F_{(67.03)}$7.27, p=0.009). Cohabitation with a partner or spouse was predictive of a less positive attitude towards involvement in physiotherapy compared with patients who lived alone.

As stated in section 6.11.1, respondent's scores for the PAPI-B ranged from 24 to 66, hence a difference of 6 points in attitude score, as suggested by the above regression model, represented 14.3% or one seventh of the score. *Marital status* (predictor variable) was then regressed, using logistic regression, against the binary criterion variable, *agreement with all aspects of patient involvement.* The resultant model was not significant (χ^2= 0.603, df = 1, p=0.707).

Table 6.3 Predictive ability of marital status on patient attitudes towards involvement in physiotherapy

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	50.99	2.59	22.00	19.67	<0.001	45.61	56.36
Married or living with partner	-6.72	2.49	67.03	-2.70	0.009	-11.7	-1.75

6.12.2 Predictors of patients' attitudes towards the development of a therapeutic relationship with the physiotherapist (component 1).

Significant associations were found between component 1 and the patient variables *level of qualification* and *condition.* Linear mixed models analysis suggested that none of the independent variables were predictive of patients' attitudes towards the development of a therapeutic relationship with the physiotherapist.

6.12.3 Predictors of patients' attitudes towards involvement in treatment planning (component 2)

Only *marital status* showed a statistically significant association (p=0.028) with involvement in treatment planning. The resultant linear regression mixed model suggested that no variables were significantly predictive of patient attitudes towards involvement in treatment planning.

6.12.4 Predictors of patients' attitudes towards the need to explore the patient's perspective (component 3)

As above, *marital status* was the only variable which showed a statistically significant association (p=0.002) with patient's belief about the importance of sharing their perspective of the problem. *Marital status* (predictor variable) and *component 3* (criterion variable) were entered into a linear mixed models analysis with *physiotherapist* entered as a covariant. The influence of the physiotherapist was not significant (Wald Z = 0.102, p=0.919). The resultant model, illustrated in table 6.4 suggested that patients who live with a partner or spouse are likely to score

two points lower in the sub-scale "*attitudes towards the need to explore the patient's perspective (component 3")* than patients who lived alone.

Table 6.4 Predictive ability of marital status on patients' attitudes towards the need to explore the patient's perspective

Parameter	Estimate	Std. Error	df	t	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Intercept	11.57	0.61	3.46	19.09	<0.001	9.78	13.39
Lives with partner/ spouse	-2.11	0.65	68.08	-3.28	0.002	-3.40	-0.83

Marital status proved to be a non significant predictor of *agreement with all items in component 3,* although the overall model was significant (χ^2= 8.606, df = 1, p=0.003).

6.13 Patients' beliefs regarding the relative importance of aspects of patient involvement.

Respondents were asked to indicate which of 10 aspects of patient involvement, they believed to be the most, second, third and least important. Only 45.2% (n=33) respondents completed this section correctly. Table 6.5 illustrates the response frequencies per item. Respondents rated item F "*To be given a physiotherapy programme which has been designed to suit your lifestyle and home circumstances*" as the most important (n=10). Of secondary importance was item G "*To be involved in setting treatment goals which are based on what you feel are the main problems"* (n=11) whilst item I "*To be given the right amount of information about your problem in a way that is easy to understand"* was considered third important by 9 respondents. Twenty three patients believed that "*To be addressed by the name of your choice"* was the least important.

Table 6.5 Response frequencies indicating patients' beliefs regarding the relative importance of aspects of patient involvement

ITEM	Most Important	Second Importance	Third Important	Least Important
A. To be addressed by the name of your choice	0	0	0	23
B. To have the opportunity to describe your problem in your own words.	6	1	5	0
C. To be able to express how your problem has affected your work, family and social life.	4	0	4	2
D. To be able to discuss what is on your mind e.g. worries about your problem etc.	1	2	1	1
E. To be given the opportunity to be involved in decisions about your physiotherapy treatment	4	2	6	0
F. To have a physiotherapy programme which has been designed to suit your lifestyle and home circumstances	10	4	6	0
G. To be involved in setting treatment goals which are based on what you feel are the main problems	0	11	1	1
H. To be listened to with interest and without interruption.	0	3	2	0
I. To be given the right amount of information about your problem in a way that is easy to understand.	4	10	9	0
J. To be treated as an equal	4	0	0	5

6.14 Comparison of patients' and physiotherapists' attitudes towards involvement in physiotherapy

As PAPI - A and B factored differently it is not possible to make direct comparisons between the two. Table 6.6 compares the proportions of patients and physiotherapists who agreed with each PAPI-B item, and the strength of association between the two.

Table 6.6 A comparison of the proportions of physiotherapists and patients who agreed to some extent with each survey item.

Item	Proportion of **physios** who agree to some extent (%)	Proportion of **patients** who agree to some extent (%)	Associations between physiotherapist and patient agreement χ^2 (df) p
1. Effective communication has as much of an impact on my health as the physiotherapy treatment.	96.9	89	11.03(1) 0.004 ** Exact
2. I feel comfortable answering questions of an emotional or social nature	79.2	80.8	0.109(1) 0.742
3. I want the physiotherapist to deal with my worries about my problem.	93.6	72.6	38.52(1) 0.01**
4. I want the physiotherapist to listen to everything I have to say about my problem.	83.5	86.3	0.373(1) 0.54
5. I want the physiotherapist to be interested in what I think the problem is.	96.6	86.3	17.0(1) 0.01** exact
6. I want the physiotherapist to be interested in how it affects my life.	99.3	82.2	89.44(1) 0.01** exact
7. How it affects my life is my affair and has nothing to do with the physiotherapist.	2.4	16.4	36.35(1) 0.01** exact
8. I want the physiotherapist to be interested in what I want to know.	98.9	95.9	4.51(1) 0.07 exact
9. I want the physiotherapist to understand my main reason for coming to physiotherapy	98.8	95.9	3.78(1) 0.09 exact
10. I want the physiotherapist to treat me as an equal.	93.9	93.2	0.06(1) 1.00 exact
11. I want the physiotherapist to be friendly and approachable	99.5	98.6	0.74(1) 0.38 exact
12. I want to feel really understood by the physiotherapist.	90.7	90.4	0.009(1) 0.925
13. I want the physiotherapist to explain clearly what the problem is	87.2	98.6	8.346(1) 0.004**
14. I want the physiotherapist and I to discuss and agree what the problem is together.	92	90.4	0.216(1) 0.642
Item	Proportion of **physios** who agree to some extent (%)	Proportion of **patients** who agree to some extent (%)	Associations between physiotherapist and patient agreement χ^2 (df) p
15. I want the physiotherapist to explain clearly what should be done.	81.6	100	16.098(1) 0.001**
16. I want the physiotherapist to be interested in what I want done.	92	78.1	15.216(1) 0.001**
17. I want the physiotherapist to be interested in what treatment I want.	83.3	82.2	0.055(1) 0.815

18. I want the physiotherapist and I to discuss and agree the treatment together.	96.2	93.2	1.566(1) 0.21 exact
19. The physiotherapist alone should decide on the treatment without discussion	3.8	16.4	22.507(1) 0.001** exact
20. The physiotherapist's role is to give advice on how to stay healthy.	98.5	89	25.893(1) 0.001** exact
21. My future health is my business and has nothing to do with the physiotherapist.	3.9	15.1	17.46(1) 0.001** exact
22. I want the physiotherapist to understand my emotional needs.	91.3	61.6	57.854(1) 0.001**
23. I want advice on what I can do.	96.6	95.9	0.1(1) 1.00 exact

** significant at 5% level; ** significant at 1% level*

The biggest differences between the physiotherapist and patient responses arose for item 22, in which almost 30% more physiotherapists than patients considered it important to understand the patient's emotional needs, and item 3, in which 21% more physiotherapists felt that they should deal with the patient's worries about their problem. Only 4 patients (5.5%) disagreed with both of these items, thus suggesting that most of the patients disagreed with one or the other item but not both, or were uncertain about which response to give. All patients expected the physiotherapist to explain clearly what should be done (item 15) whereas 18.4% of physiotherapists did not share this belief. It is also notable that over 20% of patients did not believe that the physiotherapist should be interested in what they want done (item 16), whilst only 8% of physiotherapists shared that belief.

Similar proportions of patients and physiotherapists agreed that the physiotherapist should: understand the patient; treat the patient as an equal; provide advice; be friendly and approachable; be interested in the treatment that the patient wants and collaborate in the identification of the problem.

6.15 Discussion

This chapter described the dissemination of a survey which used an instrument, the PAPI-B, developed specifically to investigate the attitudes of a local sample of physiotherapy out-patients (n=73) regarding their involvement in their physiotherapy care. The findings will now be discussed.

6.15.1 What proportions of patients believed that they should be involved in their physiotherapy consultation?

The proportion of patients who agreed with all items on the PAPI-B was 43.8%. This relatively low value might be explained by the fact that the PAPI-B was comprised of 14 items, and, as has been suggested (Charles, Whelan and Gafni, 1999), not all patients wish to be involved in all aspects of the consultation. Whilst age was not predictive of attitudes in this case, it has been shown to predict a preference for a more directive approach elsewhere (McKinstry, 2000). As more than half of this sample was aged 65 years and over, this might also explain the low proportion of patients who believe in all aspects of patient involvement.

The PAPI-B is comprised of three sub-sections: 84% of patients agreed with all items which loaded onto the sub-scale *Development of a therapeutic relationship*; 74% of patients agreed with all items on the *Attitudes towards involvement in treatment planning* sub-scale; and 77% agreed with all items on the *Exploration of the patient's perspective* sub-scale. As was discussed in sections 6.6.1 – 6.6.3, this sample consisted predominantly of patients with low educational attainment, older age, and from an area which has pockets of social deprivation. Therefore, the proportion of patients who believed that they should be involved in treatment planning was higher than expected, given that evidence suggests that a preference for involvement in medical decisions is predicted by higher educational attainment (Coulter, Peto and Doll, 1994), younger age and from higher socio-economic classes (McKinstry, 2000; Krupat, Bell, Kravitz *et al.*, 2001). In comparison, only 47% of patients from a sample (n=171) of Oxfordshire General Practice patients (Ford, Schofield and Hope, 2003a), were willing to participate in treatment decisions. This may be due to the fact that the patients were more familiar with their GPs and trusted their judgement.

Whilst only 43.8% of patients agreed with involvement in all aspects of the consultation, the findings that between 74% and 84% of patients believed that they should be involved in a therapeutic relationship, in treatment planning and in the exploration of their perspective, confirms the suggestion that patient's preferences for involvement vary according to the activity (Payton, Nelson and St Clair Hobbs,

1998; McKinstry, 2000; Bruera, Sweeney, Calder *et al.*, 2001), and the problem (McKinstry, 2000). The proportion of patients who believe that they should not be involved in their physiotherapy care was 16%. This figure might reflect a traditional paternalistic view of the healthcare professional's role in which the patient expects to do as they are told. However, it has been suggested that such role expectations may be subject to change given appropriate information (Greenfield, Kaplan and Ware, 1985; Caress, Luker, Woodcock *et al.*, 2002), support (Charles, Gafni and Whelan, 1997) and when there is a suggestion of equipoise (Elwyn, Edwards, Kinnersley *et al.*, 2000). Hence, there is a distinction between role expectations and preferences. Therefore instruments, such as the OPTION tool, which determine pre-consultation preferences (Elwyn, Edwards, Kinnersley *et al.*, 2000), are likely to yield unreliable results, as patients preferences do not always match what actually happens in the consultation (Brody, Miller, Lerman *et al.*, 1989; Ford, Schofield and Hope, 2003a).

This may have been due to the relative number of items on the PAPI-B compared to the sub-scales. The PAPI-B also included 4 additional items (Items 1, 2, 7 & 21), which factored onto the PAPI-B as two components but were insufficiently stable to use in their own right. Table 6.6 illustrates that similar proportions of patients (15-16%) did not agree that the physiotherapists' role included eliciting the effect of the problem on their life (item 7), or giving advice on future health management (item 21). Such attitudes may present difficulties in terms of formulating meaningful treatment goals, or in helping the patient to develop problem-solving strategies to deal with future recurrences of the problem.

6.15.2 Can patients' attitudes towards patient involvement be predicted?

The variable "*living with a partner or spouse"* predicted lower scores in the PAPI-B, and in the sub-scale *Exploration of the patient's perspective*. This variable did not prove to be predictive in the studies from which the PAPI-B questionnaire was derived (Little, Everitt, Williamson *et al.*, 2001), and only one other study could be found in which marital status was a non significant predictor of preference for involvement in medical decision making (Arora and McHorney, 2000). The reason why patients who live with a partner / spouse do not agree with patient involvement to the same extent as those who live alone is unknown. It can only be speculated

that, as these patients live with a partner/spouse, they do not feel that it is as important for the physiotherapist to listen to everything that they have to say, or be interested in what they think the problem is, compared with those who live alone. However, this hypothesis infers that the partner is willing to listen and provide the necessary support (Dehle, Larsen and Landers, 2001). Social support is also associated with coping (Schreurs and de Ridder, 1997), and thus another possible explanation for a desire for patient involvement might be that these patients experience greater symptom burden than those who live with a partner.

6.15.3 Are patients' beliefs comparable with those of physiotherapists' regarding aspects of patient involvement.

By comparing physiotherapists' and patients' beliefs regarding the relative importance of certain aspects of patient involvement, presented in sections 5.13 and 6.13, it can be seen that differences exist between the two groups. Physiotherapists placed great emphasis on enabling the patient to share their experience of their problem, whereas more patients felt it important to receive a physiotherapy programme tailored to suit their lifestyle. Both patients and physiotherapists believed it important to collaborate in setting treatment goals, although physiotherapists ranked this third whilst patients placed it second. Patients allocated third place to the need to have adequate information regarding their condition, which was not ranked by the physiotherapists. Both groups considered the manner by which the patient is addressed to be of least importance. This discrepancy between patient and professional beliefs is consistent with a comparative study of doctor and patient beliefs regarding important aspects of a patient-centred approach (Ogden, Ambrose, Khadra *et al.*, 2002).

Whilst approximately 80% of patients and physiotherapists felt comfortable respectively answering/ asking questions of an emotional or social nature, almost 30% more physiotherapists than patients believed that they should understand the patient's emotional needs. The figures in table 6.6, item 22, suggest that just fewer than 40% of patients disagreed, or were not certain of the role of the physiotherapist in dealing with their emotional problems. Likewise, 27% of patients did not agree that the physiotherapist should deal with their worries about their problem. It has

been suggested that patients have become socialised to focus on the biomedical aspects of their condition, and hence do not believe that they should discuss their psychosocial concerns (Barry, Stevenson, Britten *et al.*, 2001). As the physiotherapy profession has allied itself to medicine, it is possible this same attitude has transferred into the physiotherapeutic context.

The importance of addressing psychosocial issues in addition to the physical manifestations of the problem within physiotherapy have been recognised (Harding and De C. Williams, 1995; Klaber Moffett and Richardson, 1995; Adams, 2004). Physiotherapists therefore need to be explicit regarding their reasons for pursuing a psychosocial line of questioning, as suggested in section 2.13.7, so that patients understand why this is necessary, and would possibly be more willing to participate. As this survey was quantitative, the questions and response options were pre-determined, thereby constraining patient's responses. Further research is required, possibly of a qualitative nature, in order to further explore the differing perceptions of patient involvement by both physiotherapists and patients.

6.15.4 Strengths of the study

This survey has provided a unique insight into the attitudes of a local sample of NHS physiotherapy out-patients towards involvement in their physiotherapy care. An instrument, the PAPI-B, has been developed specifically for this study. Whilst careful testing is advocated to determine its validity for use with other cohorts of physiotherapy patients, the PAPI-B should provide physiotherapists with the means of investigating their patient's preferences for involvement. In addition, whilst the PAPI-A and PAPI-B were not matched, they do provide a means of comparing physiotherapist and patient responses on individual items.

6.15.5 Limitations of the study

Cardio-respiratory patients and those with neurological conditions proved difficult to recruit. This was due to a reduction in the number of patients referred; staff shortages resulting in fewer out-patients being treated; difficulty in finding patients who were not embarrassed by the manifestations of their problem such as a need to expectorate, or problems with continence. In addition, some patients with

chronic lung disease or certain neurological problems had difficulty in communication due to dysphasia or dypsnoea.

The findings of a study are only as good as the instrument and the method by which the data was gathered (Robinson and Thomson, 2001). The PAPI-B was developed for this study, validated by an expert panel and found to be reliable on testing. However, it may require further testing before it can be widely adopted.

As this was a local study conducted in an area of some deprivation (Audit Commission, 2002), the findings may not be representative of the NHS physiotherapy out-patient population; however, it is hoped that these results will generate further debate and research.

6.16 Conclusions

Thirty two of the 73 patients who returned the survey agreed with all 14 PAPI-B items. This infers that 44% of respondents believed that they should be involved in all aspects of their physiotherapy care. Patients who lived with a partner or spouse on average accrued lower PAPI-B scores than those who lived alone.

Most patients (84%) wanted to be treated as an equal, and wanted the physiotherapist to understand their problem. They believed that the physiotherapist should be friendly and approachable, and wished to be given advice on how to help themselves. Over three quarters of the sample wanted the physiotherapist to explore their perception of their problem, although between 15 and 20% of the sample did not consider this to involve questions of a psychosocial nature.

Patients priorities were: i) to be given a physiotherapy programme which has been designed to suit their lifestyle and home circumstances; ii) to be involved in setting treatment goals which are based on what they identify as the main problems; and iii) to be given the right amount of information in a way that is easy to understand.

Chapter 7:
A regional survey to investigate physiotherapists' ability to recognise good practice in patient involvement from three simulated vignettes of a physiotherapy consultation.

7.1 Introduction

Novack (2000) suggests that in order to involve a patient in the consultation the professional must first know what patient involvement is and how it can be achieved. A search of the literature in section 3.3, failed to find any studies which have investigated physiotherapists' understanding of patient involvement. This chapter describes a study which aims to address this gap in our knowledge.

7.2 Research Aims:

This study was conducted to answer the following questions:

a) What proportions of NHS physiotherapists recognise when a patient is being effectively involved in the physiotherapy consultation?

b) Can physiotherapists' ability to recognise effective patient involvement in a physiotherapy consultation be predicted by variables such as age, gender, clinical specialty, years of experience, perception of adequate undergraduate communication training, perception of personal competence as a communicator and receipt of additional communication training?

7.3. Research Design

A regional survey was conducted of qualified physiotherapists who work in selected NHS Trusts in the North of England.

This study was granted Multi-centre ethical approval by the Hull and East Riding Research Ethics Committee. Permission to undertake research in each of the participating NHS Trusts listed in appendix 6, was granted by their respective research governance committees.

7.3.1. Questionnaire Design

The design and piloting of the vignettes and the vignette evaluation sheet has been discussed in section 4.3. The three vignettes were screened in a random order at each participating physiotherapy department. Each vignette was performed by the same actors and featured the same clinical scenario of an initial assessment of a patient who presented with low back pain. However the degree to which the patient was involved in the consultation varied.

On arrival, each participating physiotherapist was handed a pack which contained an instruction sheet and three identical vignette evaluation sheets (Appendix 7), one for each vignette, and a sealed envelope containing the PAPI-A and demographic questions (Appendix 2) described in section 5.3.1.3.

7.4 Sample

7.4.1 Inclusion Criteria

Participants had to be:

- qualified physiotherapists
- currently employed in the National Health Service
- representative of a range of ages, experience, grades and clinical areas.

7.4.2 Exclusion Criteria

The physiotherapists were advised that they required sufficient visual and auditory acuity to be able to analyse and compare the different scenarios. On this basis one individual experienced difficulty in this task and was excluded.

7.4.3. Sample size

The number of physiotherapists working in the NHS in 2001 was 16,210 (The United Kingdom Parliament, 2002), rising to 17890 in 2003 (Graduate Prospects Limited, 2000). There was no data to indicate the number of physiotherapists in the NHS in 2004 when this study was undertaken, therefore on the basis that the number of training places had increased in accordance with the NHS plan (Department

of Health, 2000a) an estimate was made of the number of qualified physiotherapists in 2004 as 18500. A 1% sample of NHS physiotherapists (n=185) was considered to be sufficiently large to allow inferences to be made about physiotherapists' knowledge, whilst being a sufficiently manageable proportion to recruit in the time available. In order to allow for problems with the equipment, incomplete response sheets, staff failing to attend the meetings or to complete the task, arrangements were made to recruit an additional 50%, bringing the figure to 277.

7.4.4 Sample frame

Qualified physiotherapists were recruited from Acute Hospital Trusts within a hundred mile radius of Kingston Upon Hull. Acute Trusts were approached as these contain large populations of physiotherapy staff and represent most of the areas of clinical specialty. They are more likely to have a gymnasium or large treatment area which could accommodate the equipment required to screen the vignettes and allow access to large numbers of respondents.

7.5 Methodology

Physiotherapy managers from ten Acute Hospital Trusts were initially contacted by letter (Appendix 4) to introduce the study, and then by telephone to obtain consent to attend. Once approval had been received from the physiotherapy manager and the Trust research and development committee, managers were sent letters to disseminate to the physiotherapists explaining the purpose of the study and what was involved (Appendix 5).

Prior to the meeting, an independent person determined the order in which the vignettes were to be screened by selecting one of a series of sealed envelopes which contained different combinations of vignette order. As participating physiotherapists arrived, they were handed the vignette evaluation pack and a pencil. Respondents were instructed to read the instructions on the front of the pack and to familiarise themselves with the evaluation sheets. The instructions were given verbally, and any questions were answered before proceeding. The vignettes were shown one at a time, followed by a pause to allow participants to complete the evaluation sheet. The physiotherapists were given the option of watching the

vignettes again if they wished and they were allowed to change earlier evaluations having seen a subsequent vignette. Once all the evaluation sheets were complete, participants completed the PAPI-A questionnaire. The vignette evaluation sheets and the PAPI-A were then sealed in an envelope and placed in a collection box. Participants were identified by a code number which had previously been written onto each of the questionnaire and evaluation sheets.

7.6 Statistical analysis

7.6.1 Data entry

After the final meeting, data was entered onto an SPSS for windows database (Vn 11.5). An independent researcher also entered the data onto a separate database and the two databases were compared for anomalies. Both databases were identical, and thus it was inferred that the participant's responses had been accurately recorded.

7.6.2 Data cleaning

Six cases omitted one response in one of the vignettes, whilst another case missed two items in both vignette one and three. Where one or two pieces of data were missing, a mean of the other discrepancy scores was calculated, as recommended by Tabachnik and Fidell (2001) and this figure was used to calculate the total discrepancy score.

7.6.3 Analyses

As the sample size was large, and analyses were conducted on the summed discrepancy scores, the central limit theorem applied (Altman, 1991). Intracluster correlation coefficients were calculated to ascertain whether the variance in physiotherapists total discrepancy scores within individual NHS Trusts was comparable to that between NHS Trusts. If variances were not comparable, the effect of the cluster (i.e. NHS Trust) would have to be adjusted for in the regression analyses. It was also necessary to investigate whether the order in which the vignettes were screened affected the discrepancy score, since adjustments would have to be made in any analyses if an order effect was found.

Associations between independent variables and the binary discrepancy classification were initially tested using Pearson's Chi squared for 2 x 2 contingent tables and Kruskall Wallis tests of association, if more than 2 levels of variable existed. If a significant association was indicated, the variable was entered into the binary logistic regression analysis as a predictor variable. Spearman's rho correlation coefficients were calculated to investigate any relationships between PAPI-A scores and ability to recognise effective patient involvement. Significance levels were set at 5%.

7.7 Results

7.7.1 Recruitment

Nine of the 10 Trusts who were approached agreed to participate in the study. As managers experienced difficulty in freeing in-patient staff to attend the meetings, additional meetings were conducted at other hospital sites within three of the consenting Trusts. A total of 13 meetings were held. The total number of participants was 256, a shortfall of 7.6%. Attendance at the meetings ranged from 5 to 27 (mean attendance 19.8).

7.7.2 Demographic details of sample

Table 7.1 shows the characteristics of this group of physiotherapists. As stated in 7.6.2, one data set was incomplete, and was omitted leaving 255 cases although demographic information was only available for 254 respondents. This represented a 9.2% shortfall in recruitment and responses compared with the projected figure of 277 responses.

7.7.3 Representativeness of the sample

As expected, the number of females (n=203) exceeded males (n = 51) by a ratio of 1:4. As table 5.2 demonstrates, the largest proportion of physiotherapists nationally are in the 30-39 age group, whereas the largest proportion of physiotherapists in this study (28%) were aged 25 or less. Almost 44% (n=111) of respondents had between 0-5 years experience.

Table 7.1 : Demographic characteristics of respondents (n=254)

Characteristics		Sample n (%)
Gender	Male	51 (20.1)
	Female	203 (79.9)
Age (in years)	<25	72 (28.3)
	26–30	45 (17.7)
	31-40	67 (26.4)
	41-50	49 (19.3)
	51-60	20 (7.9)
	61+	1 (0.4)
Experience (in years)	0-5	111 (43.9)
	6-10	44 (17.4)
	11-20	58 (22.9)
	21-30	34 (13.4)
	31-40	6 (2.4)
Clinical Setting	In patient	89 (35)
	Out patient	136 (53.5)
	Both	19 (7.5)
	Other	10 (3.9)
Did your physiotherapy training prepare you adequately to communicate effectively with patients?	Yes	144 (56.9)
	No	109 (43.1)
Any specific communication skills training undertaken since qualification?	Yes	74 (29.4)
	No	178 (70.6)
Clinical Specialty	Amputee Rehabilitation	1 (0.4)
	Burns and Plastics	1 (0.4)
	Cardiology	1 (0.4)
	Children	2 (0.8)
	Elderly	31 (12.2)
	Health Promotion	0 (0)
	Learning Difficulties	0 (0)
	Medicine	8 (3.1)
	Mental Health	0 (0)
	Musculoskeletal	123 (48.4)
	Neurology/ Neurosurgery	21 (8.3)
	Oncology	2 (0.8)
	Orthopaedics	13 (5.1)
	Palliative	0 (0)
	Renal	0 (0)
	Intensive Care	24 (9.4)
	Rheumatology	6 (2.4)
	Spinal Injuries	1 (0.4)
	Stroke	18 (7.1)
	Surgery	0 (0)
	Women's Health	7 (2.8)
	Other	26 (10.2)

Most participants specialised in musculoskeletal physiotherapy (n=123). Other well represented specialty areas were medical elderly (12.2%, n=31), rotational staff

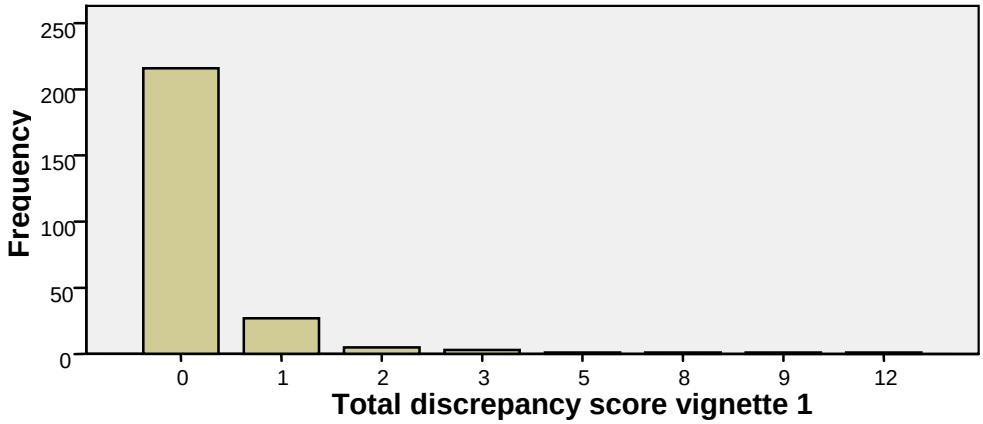
(10.2%; n=26), respiratory (9.4%, n=24), neurology (8.3%, n=21) and stroke (7.1%, n=18). As stated earlier, out-patient staff i.e. those specialising in musculoskeletal conditions, found it easier to rearrange their caseload to attend the meetings. In summary, the number of physiotherapists who participated in this study represented approximately 1% of NHS physiotherapists. This sample was proportionately younger than the modal national physiotherapist age group. As in the national physiotherapist attitude survey (chapter 5), the number of musculoskeletal physiotherapists exceeded all other specialty groups, suggesting that this might be indicative of the relative proportion of musculoskeletal physiotherapists nationally.

7.8 Total discrepancy scores.

7.8.1 Total discrepancy scores per vignette

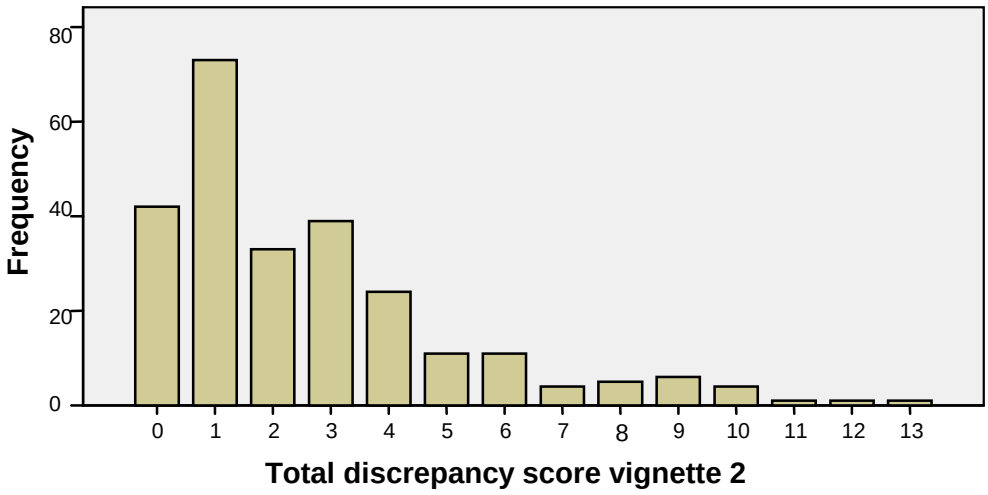
In scripting the vignettes it was considered important to ensure that the physiotherapist in each scenario was consistent in mannerism. As a result vignette one portrayed a directive physiotherapist who did not relate well to the patient. This was scripted verbatim from an actual physiotherapy consultation. Figure 7.1 illustrates the distribution of total discrepancy scores for this vignette. The scores ranged from 0 to 12 of a possible 0 to 14. A discrepancy score of 0 indicates total agreement with the expert panel. Two hundred and sixteen physiotherapists (n= 84.7%) achieved total agreement with the expert panel across all seven items for this vignette.

Figure 7.1 Distribution of total discrepancy scores for vignette 1



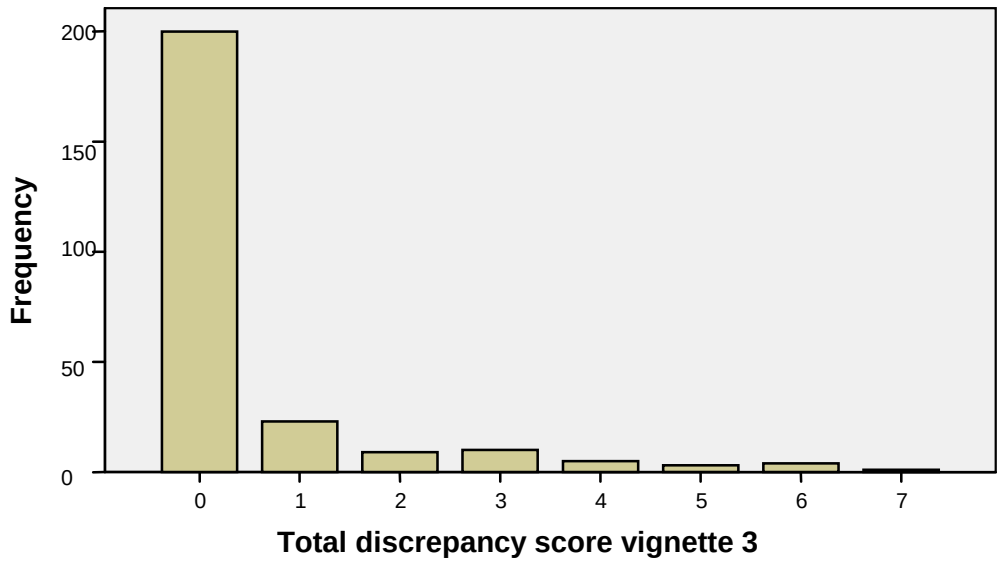
Vignette 2 represented an approach in which the physiotherapist made more attempts to involve the patient although these were not always effective. As the physiotherapists' understanding of patient involvement, and effective communication skills were challenged to a greater extent than for the previous vignette, the number of physiotherapists who accrued discrepancy scores for this vignette increased. As illustrated in figure 7.2, the discrepancy scores ranged from 0 to 13 of a possible 0 - 14. Only 42 physiotherapists (16.5%) concurred with the expert panel in all seven items.

Figure 7.2 Distribution of total discrepancy scores for vignette 2



Finally, vignette 3 depicted the most effective attempt at involving the patient. As figure 7.3 illustrates, the majority of physiotherapists (n=201; 78.2%) achieved total agreement with the experts across all items. The discrepancy scores ranged from 0 to 7 of a possible 0 to 14.

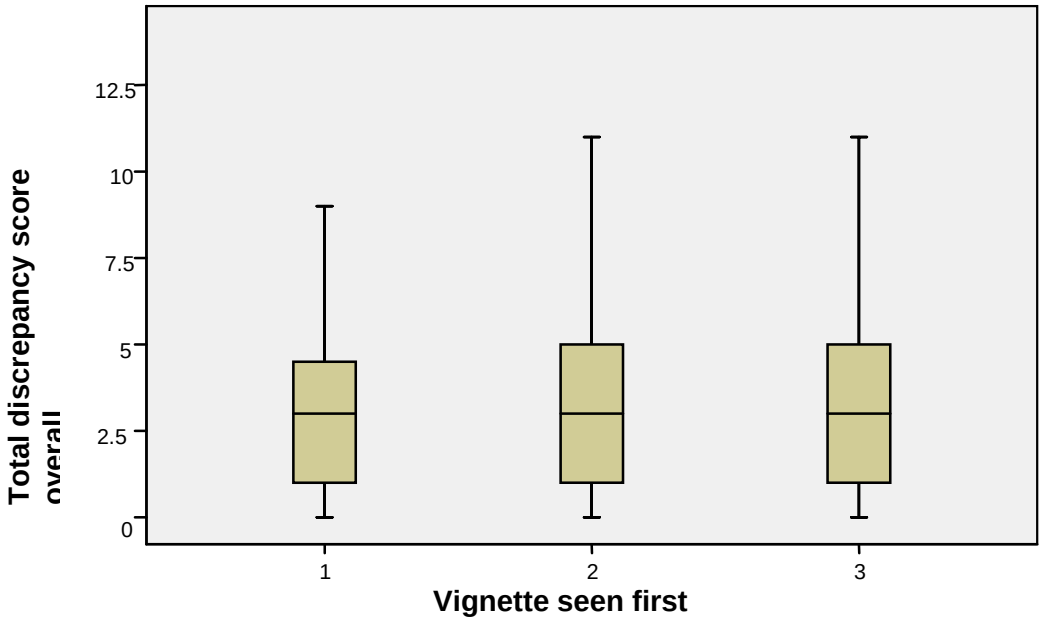
Figure 7.3 Distribution of total discrepancy scores for vignette 3



7.8.2 Investigation of the effects of the order in which the vignettes were screened on discrepancy scores.

The vignettes were shown in a pre-selected random order to overcome variation due to order effects. Figure 7.4 compares the median and distributions of the total discrepancy scores according to which vignette was screened first, as it seemed likely that the physiotherapists would compare all subsequent vignettes with the first vignette which they saw. The box plot in figure 7.4 demonstrates that the median values, 25th and 75th percentiles are comparable, and thus no order effects were evident.

Figure 7.4 Box plot of total discrepancy scores overall according to which vignette was seen first.

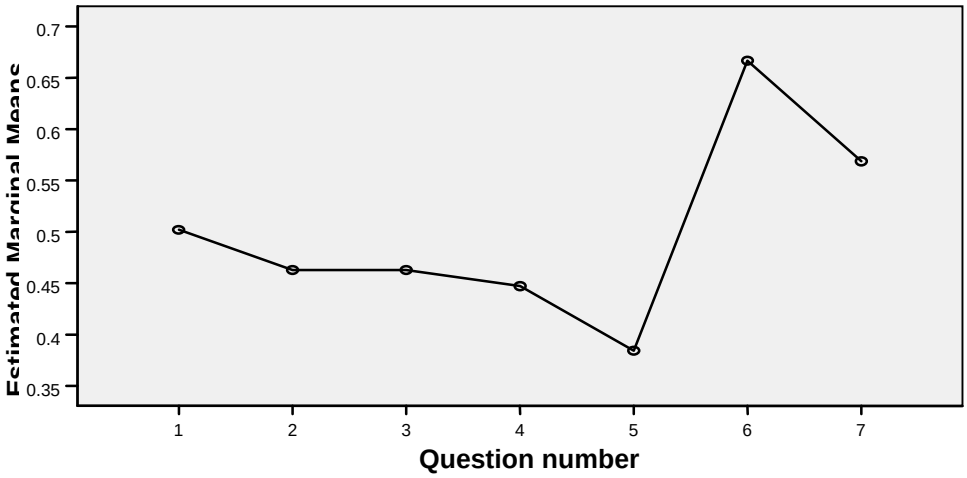


7.8.3 Comparison of discrepancy scores per item across the three vignettes.

In order to determine whether respondents found any of the seven items more difficult to evaluate than others, item discrepancy scores were summed across the three vignettes. As figure 7.5 illustrates, the mean discrepancy scores for items 6 and 7 are higher than for the other items, suggesting that respondents found it more difficult to recognise when the simulated physiotherapist adequately elicited the effect of the patient's problem on their lifestyle (item 6); and the ability of the physiotherapist to involve the patient overall (item 7).

A one way ANOVA was planned to examine whether the difference in means between items was significant. However, as Levene's test for homogeneity of variance was significant ($p<0.01$) the Kruskall-Wallis test was used. It revealed that there were significant differences between items ($\chi^2_{(6)}=31.09$, $p<0.01$).

Figure 7.5 Differences in mean scores between evaluation items.



7.8.4 Number of physiotherapists whose scores concurred with those of the expert panel

Thirty participants (11.8%), from 12 of the meetings, achieved total agreement with the expert panel. Six of these cases came from one NHS Trust, representing 35.3% of participants from that group, hence it was necessary to explore the influence of the various NHS Trusts on the variance of the total discrepancy scores. This is described in section 7.8.5 below.

Of these 30 physiotherapists, 40% (n=12) had between 0 and 5 years experience, 36.7% (n=11) were aged 31-40. Only 7 (23.3%) had received additional communication training. Half of these physiotherapists were musculoskeletal specialists, however as musculoskeletal physiotherapists comprised 48.4% of the total sample it is not possible to infer any relationship between musculoskeletal physiotherapists knowledge and ability to recognise good practice in patient involvement.

7.8.5 Comparison of intra and inter-cluster variance according to NHS Trust

As several physiotherapists were recruited from each participating NHS Trust, a cluster analysis was conducted to investigate whether the variance in physiotherapists' ability to recognise effective patient involvement within NHS

Trusts was comparable with the variance between NHS Trusts. An intracluster correlation coefficient of 0.047 was obtained, which is within the recommended limit (Campbell, Grimshaw and Elbourne, 2004) and hence it was not necessary to adjust for the location of the physiotherapist in any analyses.

7.8.6 Number of physiotherapists able to recognise effective practice in patient involvement

Total discrepancy scores ranged from 0 to 16, of a possible 0 to 42. One female physiotherapist, aged between 31 and 40, with 0-5 years experience, scored 16, the highest total discrepancy score. This indicated poor ability to discriminate good practice from poor. As 40% of the physiotherapists whose scores concurred with the expert panel shared the same demographic characteristics as the poorest performing physiotherapist, this suggests that age and experience may not prove to be predictive of physiotherapists' knowledge of patient involvement.

A total discrepancy score of 3 was selected as the cut off point to demarcate those whose ability to recognise effective patient involvement in a physiotherapy consultation was acceptable, from those whose ability to distinguish good practice in patient involvement was poor. This score corresponded with the 50^{th} percentile.
On this basis, 57.6% (n=147) of physiotherapists knowledge was within acceptable limits. Of these physiotherapists, 27.9% (n=41) had received additional communication training, 57.8% (n=85) felt adequately prepared to communicate effectively with patients when they graduated, 29.9% (n=44) were aged 25 years or less, and 49% (n=72) had between 0 and 5 years clinical experience. One hundred and eight of the 117 physiotherapists who accrued between 1 and 3 discrepancy points overall, acquired these points in vignette 2. Thus supporting the finding in section 7.8.1 that the physiotherapists found vignette 2 harder to evaluate than the vignettes which portrayed extremes of behaviour.

7.9 Determination of whether physiotherapists' ability to recognise effective patient involvement in a physiotherapy consultation can be predicted by demographic variables

As the total discrepancy scores fell within a relatively narrow range (0-16), it was considered more informative to investigate which variables were predictive of the physiotherapist's ability to recognise effective patient involvement i.e. to predict those whose score was 3 or under. Binary logistic regression techniques were thus employed.

Associations between each level of the predictor variable and physiotherapist's ability to discern effective patient involvement were explored to investigate which variables should be entered into the regression analysis. As table 7.2 illustrates, age categories 26 – 30 and 41 to 50; experience of between 0 and 5 years and 11-20 years; were significantly associated. Two other variables were just outside the $p=0.05$ limit for statistical significance but were sufficiently close to be entered into the regression analysis (Altman, 1991). These were respondents who specialised in neurology ($p=0.061$) and attitude towards patient involvement ($p=0.074$).

As age and experience were strongly associated (rho $=0.815$, $p<0.01$), they could not be entered together into a regression analysis, otherwise the relative contribution of each variable towards the final model would be difficult to discern (Tabachnick and Fidell, 2001). Hence age and experience were regressed separately to explore which was the stronger predictor of the physiotherapist's ability to discern good practice from poor in patient involvement. Experience only accounted for between 4.1 and 5.5% of the variance in ability to recognise effective patient involvement, and only 27.1% of predictions were accurate. None of the predictor variables that had been entered into the model were significantly reliable, therefore experience was not predictive of physiotherapist's ability to recognise effective patient involvement.

Table 7.2: Strength of association between levels of physiotherapist demographic variables and binary discrepancy classification

Variable	Level		Number able to recognise effective patient involvement	Number unable to recognise effective patient involvement	Chi square (p value)
Physiotherapists Gender	Male		27	24	0.54 (0.463)
	Female		119	84	
Felt adequately prepared to communicate by undergraduate training	Yes		85	59	0.24 (0.625)
	No		61	48	
Physiotherapists age (years)	<25	Y	44	28	0.54 (0.462)
		N	102	80	
	26-30	Y	34	11	7.31 (0.007)**
		N	112	97	
	31-40	Y	35	32	1.02 (0.312)
		N	111	76	
	41-50	Y	21	28	5.31 (0.021)*
		N	125	80	
	51+	Y	12	9	0.01 (0.974)
		N	134	99	
Physiotherapists experience (years)	0-5	Y	72	39	4.15 (0.04)*
		N	74	68	
	6-10	Y	26	18	0.04 (0.838)
		N	120	89	
	11-20	Y	27	31	3.84 (0.05)*
		N	119	76	
	21+	Y	21	19	0.83 (0.467)
		N	125	88	
Belief in ability to communicate effectively	Yes		144	105	0.64 (0.425)
	No		2	3	
In – patient caseload	Yes		54	35	0.57 (0.45)
	No		92	73	
Out-patient caseload	Yes		74	62	1.13 (0.288)
	No		72	46	
Elderly Specialty (n=31)	Yes		15	16	1.30 (0.274)
	No		131	92	
Musculoskeletal specialty (n=123)	Yes		70	53	0.03 (0.859)
	No		76	55	
Neurology Specialty (n=21)	Yes		8	13	3.52 (0.061)
	No		138	95	
Intensive Care/ Respiratory (n=24)	Yes		15	9	0.27 (0.601)
	No		131	99	
Rotational staff (n=26)	Yes		18	8	1.63 (0.201)
	No		128	100	
Agreement with all PAPI-A items	Yes		61	57	3.19 (0.074)
	No		86	51	
Agreement with all PAPI-A component 1 items	Yes		104	80	0.25 (0.616)
	No		42	28	
Agreement with all PAPI-A component 2 items	Yes		113	89	1.16 (0.282)
	No		34	19	

* p=0.05 ** p=0.001

The logistic regression model into which age had been entered as a predictor was a good fit (χ^2= 17.91, df = 4, p<0.001) and accounted for between 6.8% and 9.1% of variance in discrepancy score. In this model 91.2% of physiotherapists who scored within acceptable limits were successfully predicted, although it could only predict 21.3% of physiotherapists who were not able to recognise effective patient involvement with any accuracy. Overall 61.6% of predictions were correct.

Table 7.3 Beta coefficients, Wald values, degrees of freedom, significance levels and probability values of predictor variables (n=254).

	Number of physios	B	S.E.	Wald	df	Sig.	Exp(B)
Aged 26 to 30 years	45	0.95	0.39	5.84	1	0.016	2.58
Aged 41 to 50 years	49	-0.59	0.33	3.15	1	0.076	0.55
Specialised in Neurology	21	-0.86	0.47	3.36	1	0.067	0.42
Did not agree with all PAPI-A items	137	0.55	0.27	4.27	1	0.039	1.73
Constant		0.06	0.22	.09	1	0.771	1.07

The model in table 7.3 predicts physiotherapists who were *able* to recognise effective patient involvement i.e. their total discrepancy score over all three vignettes was less than 4. The four variables shown in table 7.3 were binary variables. Therefore, physiotherapists who were aged 26 to 30 years of age were almost 2.6 times more likely to be able to recognise effective patient involvement compared with colleagues who were older than 30 and younger than 26.

The binary variables of *age 41 to 50 years* and *specialising in neurology* were not significantly reliable predictors of ability to recognise effective patient involvement.

Physiotherapists who did not agree with all PAPI-A items were on average, 1.7 times more likely to recognise effective patient involvement compared with physiotherapists who did agree with all PAPI-A items. Possible reasons for this are proposed at the end of the chapter.

7.10 Discussion

This chapter has described a regional study which used three vignettes simulating a familiar clinical scenario in order to investigate physiotherapists' ability to recognise effective patient involvement. The following sections will examine the findings in more detail.

7.10.1 What proportions of NHS physiotherapists know when a patient is being effectively involved in the physiotherapy consultation?

An ability to recognise effective involvement was indicated by a total discrepancy score over the three vignettes of 3 discrepancy points or less. One hundred and forty seven physiotherapists (57.6%) scores fell within these limits. No other published studies were found which investigated health professionals' knowledge of patient involvement. Therefore it is not possible to say whether this finding was higher or lower than expected. As stated in section 7.7.2.1, almost 44% of the sample had between 0 and 5 years of experience. No data could be found to indicate the relative experience of the NHS physiotherapist population. The only comparable benchmark is the 2003 census data (Department of Health, 2003) which indicates the age of the NHS physiotherapist population. By comparing tables 5.2 and 7.1 it is possible to see that a higher proportion of the physiotherapists who participated in this study were younger, and possibly less experienced in comparison with the national population. These findings may not be truly representative of the physiotherapy population.

Receipt of additional communication training appeared to be unrelated to physiotherapists' ability to recognise effective patient involvement. Of the 106 physiotherapists who were *unable* to recognise effective patient involvement, 32.1% (n=34) had received additional training. Conversely, 72.1% of those who were *able* to recognise effective patient involvement had not received additional training. One explanation for this is that postgraduate communication skills training is relatively scarce, compared with the number of condition, or technique-specific courses which are available to physiotherapists. As the importance of communication and the biopsychosocial approach are recognised (Waddell, 1989), more generalised courses, in subjects such as pain management, are incorporating elements of

communication skills training, however, this may not be sufficient to bring about a change in practice (Fallowfield, Jenkins, Farewell *et al.*, 2002). In addition, it has been established that patient involvement in physiotherapy is poorly defined. Hence, physiotherapeutic communication skills training courses are unlikely to explore this aspect of communication in any depth.

Most physiotherapists (n=216, 84.7%) achieved total agreement with the expert panel across all seven items in vignette 1. In addition, 245 (96.4%) physiotherapists correctly identified that the simulated physiotherapist's directive behaviour was not effective patient involvement (item 7). Although this vignette was based on an actual physiotherapy consultation, most physiotherapists appeared to recognise that a directive manner did not constitute effective communication in this situation.

In addition, a smaller proportion (n=201, 78.2%) were able to recognise that the simulated physiotherapist's behaviour in vignette 3 was mostly effective patient involvement. This suggests that more than half of the sample were able to recognise extremes of practice with regard to the quality of patient involvement. Physiotherapists accrued most discrepancy points when evaluating the second vignette. It might be said that the second vignette, by illustrating greater variation in the physiotherapists' attempts to involve the patient, is more akin to normal clinical practice. As such this raises questions about physiotherapists' competence in assessing the communication competency of students or their peers. Of particular concern, are the 9 physiotherapists who indicated that they believed the simulated physiotherapist in vignette 1 (item 7) involved the patient to a standard which ranged from acceptable to very good. Eight of these physiotherapists were aged between 31 and 40, five were musculoskeletal physiotherapists, two worked in elderly care, one in women's health and one in intensive care. These are most likely to be senior physiotherapists who teach and support more junior colleagues. Five of these 9 physiotherapists agreed with all items on the PAPI-A scale, whilst 7 agreed with all items on both of the PAPI-A sub-scales. As the vignettes were evaluated before the physiotherapists completed the PAPI-A, this infers that these physiotherapists do not understand what patient involvement is, and whilst they agree with all items on the PAPI-A, they do not necessarily understand how each of the PAPI-A items might be achieved in practice.

Section 7.8.3 suggested that physiotherapists found it harder to evaluate the extent to which the simulated patient was involved overall in each vignette (item 7), and the extent to which the physiotherapist elicited the effect of the patient's problem on their lifestyle (item 6). This suggests that physiotherapists do not fully understand the extent to which patients may be involved in the history-taking section of an initial assessment. Therefore they were uncertain how to evaluate item 7, as they had no standard against which to make comparisons, other than the simulated physiotherapist's performance in a previous vignette.

Item 6 was included to explore whether physiotherapists were satisfied with a cursory enquiry regarding the patient's hobbies and interests, or to see whether the physiotherapists sought evidence that the simulated physiotherapist had attempted to elicit information regarding the psychosocial manifestations of the problem. In the author's experience, a patient's social history is usually elicited by means of a few cursory questions regarding hobbies and interests. Unless the patient elaborates on this point, the psychosocial manifestations are seldom explored. The finding that physiotherapists struggled to concord with the expert panel's evaluation in item 6 across all vignettes, provides some support for the belief that physiotherapists do not routinely consider the psychosocial manifestations of the problem when eliciting information regarding the effect of the patient's problem on their lifestyle.

7.10.2 Can physiotherapists' ability to recognise effective patient involvement in a physiotherapy consultation be predicted?

Binary logistic regression was able to accurately predict 91.2% of physiotherapists who were unable to recognise effective patient involvement. The model explained less than 10% variance in the discrepancy score. This indicates that, as with attitude, knowledge of patient involvement is multi-factorial and hence, additional variables, which were not accounted for by this study, influenced physiotherapists' ability to recognise effective patient involvement. It has been suggested that specific variables such as clinical experience are not as influential as the physiotherapists' overall knowledge base, when it comes to determining expertise (Resnik and Jensen, 2003). These authors suggest that variables such as general life experiences, and the influence of colleagues, parents, continuing education, teaching

experience, all influence the amount and type of knowledge that physiotherapists possess. Such variables are difficult to quantify, particularly since some of these influences may be vicarious (Bandura, 1977).

The regression model suggested that the likelihood of a physiotherapist in the 26-30 age group recognising effective patient involvement was 2.6 times greater than from any other age group. Accordingly 75% of physiotherapists in this age group (n=34) achieved a total discrepancy score of less than 4. One possible explanation for this finding is that whilst newly qualified physiotherapists have been instructed about effective communication methods at university (Chartered Society of Physiotherapy, 2002), learning how to communicate in a classroom environment does not prepare a student to communicate with a patient (Eraut, 1994). By the time physiotherapists reach the 26 to 30 age bracket they are more confident in their ability to assess and diagnose patients with a range of conditions, and have experienced sufficient interactions with a range of patients to appreciate the importance of effective communication (Buchler, 1961). Knowledge, if unused, will decay over time (Eraut, 1985). As time progresses, practitioners come to rely on certain communal concepts which they can apply to several different situations i.e. generalisations. In doing this they tend to forget the theories (Eraut, 1994). Hence, above the age of 30, it is possible that physiotherapists have honed their knowledge base to suit their area of specialist interest, and methods of practice. Such methods of practice may also incorporate certain approaches which are used with all patients regardless of individual differences. Therefore above the age of 30, physiotherapists' knowledge of patient involvement is likely to have been subject to many different influences. As literature regarding patient involvement in a physiotherapeutic context is sparse, the physiotherapists' understanding of what constitutes effective patient involvement may be somewhat limited, unless they have undertaken further study.

In statistical modelling, a cogent theoretical basis is needed when interpreting the output to ensure that it is meaningful and not an anomaly (Kinnear and Gray, 2000). Initially it seemed counter-intuitive to believe that a failure to agree with all PAPI-A items was predictive of a greater likelihood that the physiotherapist would be able to recognise effective patient involvement. This finding suggests that attitude and knowledge are inversely related. It is however possible that physiotherapists may

recognise effective patient involvement, but hold beliefs which are not in agreement with this form of practice. As was discussed in chapter 5, physiotherapists' attitudes towards patient involvement may reflect the perceived preferences and needs of their patient group. It may also be the case that whilst physiotherapists recognise effective patient involvement, their attitude reflects the constraints that are imposed on their practice through lack of time or privacy which prevent them from being able to conduct a consultation like that depicted in vignette number 3.

7.10.3 Strengths of the study

This study has attempted to provide baseline data regarding physiotherapists' ability to recognise effective patient involvement. The use of video vignettes of simulated consultations to investigate physiotherapists' knowledge is an innovative methodology. It was well received by the participating physiotherapists, who reported that they found the vignettes to be educational, as they observed how different ways of phrasing a question could elicit different information from the patient. Some physiotherapists recognised their own mannerisms portrayed in the scenarios, thus increasing awareness of how the patient might perceive their behaviour. Hence, in addition to enabling physiotherapists' understanding of patient involvement to be explored, the vignettes are also potentially a useful educational tool.

The vignettes in this study portrayed a clinical scenario which was contextually accurate i.e. it was filmed in a physiotherapy department, and depicted a standard physiotherapy assessment format used to evaluate a condition which would be familiar to all the physiotherapists. As they had been subjected to critique by an expert panel and by a small group of senior therapists, both vignettes and the evaluation sheet were considered to have content validity (Titchen and Ersser, 2001).

7.10.4 Limitations of the study

The number of physiotherapists who participated in the study were 7.6% fewer than required. This may have been because some physiotherapists were reluctant to voluntarily give up their lunchtime in order to attend a meeting which they may have perceived of being of no benefit to themselves. As in chapter 5, there was a danger that the sample may have been self-selected i.e. only those interested in patient involvement would have attended, however it is believed that the proportion of physiotherapists who were able to recognise effective patient involvement might have been higher had this been the case. As the sample demographics were composed of a greater proportion of younger, less experienced physiotherapists, than the national physiotherapy population, the results may not be fully representative of the population of NHS physiotherapists.

Section 7.8.1 and 7.8.3 suggested that the vignettes and vignette evaluation sheet items varied in complexity. Regardless of this suggestion, figures 7.1 to 7.3 illustrate that a number of physiotherapists' evaluations did not concur with the expert panel. In most tests of knowledge the complexity of the questions progressively increases, in order to discern a range of abilities. It could be argued that, as 57.6% of the physiotherapists scored within the defined limits, this study was set at an appropriate level of complexity for this sample.

As it is uncertain how much tacit knowledge contributes to our interpretation of physiotherapist-patient interactions, this methodology was selected as it was believed to recruit both propositional, and tacit knowledge in a quantifiable manner. However if physiotherapist's interpretation of patient involvement is to be studied in greater depth, this may be achieved by combining the use of videotaped consultations with semi-structured interview techniques. Such a method has been used to investigate G.P's clinical reasoning processes (Coleman and Murphy, 1999). In this way, greater insight could be obtained into physiotherapist's understanding of patient involvement. The disadvantage of this method would be that it is more complex and would lend itself to a smaller sample.

As the vignettes portrayed a musculoskeletal consultation, this study may be criticised for creating bias towards this group of practitioners. If bias were created, it might be expected that musculoskeletal specialism would be predictive of an ability to recognise effective patient involvement. As this was not the case, this argument is not supported.

It is recognised that knowledge of patient involvement is subject to many different influences. This study attempted to investigate the predictive nature of physiotherapist's socio-demographic variables on their knowledge of patient involvement, as such information is quick to elicit and relatively reliable. These factors accounted for less than 10% of total variance in knowledge of patient involvement. However, as variables such as previous life experiences are harder to quantify, and the information elicited is possibly less reliable, it may be that 10% is as much variance as it is possible to explain for this criterion variable.

7.11 Conclusions

This study used three video vignettes of a simulated physiotherapy consultation to investigate the proportion of physiotherapists' who were able to recognise effective patient involvement. It also used binary regression modelling to identify whether any socio-demographic variables pertaining to the physiotherapist were able to predict an ability to recognise effective patient involvement.

The study explored physiotherapist's knowledge of patient involvement from thirteen hospitals situated in the North of England. The recruitment rate was 7.6% lower than expected, but an acceptable cross section of physiotherapists were able to be recruited into the study. It was found that 57.6% of physiotherapists were able to recognise effective patient involvement across three simulated physiotherapy consultations. Physiotherapists in the 26-30 age range, and those who did not believe in all aspects of patient involvement i.e. did not agree with all PAPI-A items, were most likely to recognise effective patient involvement. Neurological physiotherapists were less likely to recognise effective patient involvement.

Attendance at a communication training course following their graduation did not influence the physiotherapist's ability to recognise effective patient involvement.

It is important to have insight into the knowledge possessed by physiotherapists about patient communication in order to understand how physiotherapists interpret information that they receive in a clinical encounter (Higgs, Andresen and Fish, 2004), and to identify assumptions underpinning practice (Teichler, 1999). The findings of this study suggest that a sizable proportion of physiotherapists do not recognise effective patient involvement in practice. These physiotherapists are likely to give misleading information to those who they supervise or teach regarding effective patient involvement. These physiotherapists are also unlikely to have insight into their own ability to involve their patients. Hence, 97.2% of physiotherapists who were unable to recognise effective patient involvement, believed that they communicated effectively with their patients.

There is a need to increase physiotherapists' understanding of what effective involvement entails, and how it can be achieved clinically. Whilst training was unrelated to physiotherapists' knowledge in this study, one can speculated that this may be due to the general nature of communication skills training course, and a lack of specific instruction in patient involvement techniques. However, it is also recognised that methods of training are required which enable the transfer of knowledge into the clinical environment. This will be discussed further in chapter 10 in the context of all the knowledge that this research has generated.

Chapter 8:
A local observational study of physiotherapists' skill at involving patients in an initial out-patient consultation

8.1 Introduction

To date, studies of patient involvement in physiotherapy have been limited to the exploration of how treatment goals are established. This chapter describes an in-depth study which investigated the extent to which out-patient physiotherapists involved their patients throughout an entire initial consultation.

8.2 Research Aims

This study aimed to answer the following questions:

- To what extent do NHS physiotherapists involve their patients during an initial consultation? This will be assessed by means of direct observation of videotaped consultations.

- Can physiotherapists' ability to involve patients in a physiotherapy consultation be predicted by variables such as age, gender, clinical specialty, years of experience, perception of adequate undergraduate communication training, perception of personal competence as a communicator and receipt of additional communication training?

- Is there a relationship between perceived competence in communicating with patients and the extent to which physiotherapists actually involve their patients in the consultation?

- Is there a relationship between physiotherapists' attitude towards patient involvement, their ability to recognise effective practice in patient involvement and the extent to which they involve their patients in the consultation?

8.3 Research Design

An in-depth observational study of a local sample was conducted to investigate the extent to which NHS physiotherapists involve their patients in the initial consultation.

This study was granted ethical approval by the Hull and East Riding Research Ethics Committee. Permission to undertake research in the Hull and East Yorkshire Hospitals NHS Trust and the Therapy Partnership Group, East Yorkshire Primary Care Trust was granted by the appropriate research governance committees.

8.4 Sample

8.4.1 Sample Frame

The power balance between the physiotherapist and patient appears to differ according to the patient's condition, the setting in which care is delivered (Hale, Bennett, Bentley *et al.*, 2003), and the model of care recommended for that patient (Williams and Harrison, 1999). Hence, to ensure homogeneity, this study focussed on out-patient consultations which were conducted on NHS Trust property. Such consultations are of similar duration (up to one hour), and, unlike patients in a ward setting, out-patients are aware several days in advance that they are to see a physiotherapist. Consequently out-patients have more time to reflect upon their expectations of the encounter prior to meeting the physiotherapist. As sections 5.8.1.4 and 7.7.2.1 established, physiotherapists who treat musculoskeletal, cardio-respiratory, and neurological conditions were easier to recruit into the study, possibly because they outnumber some of the other specialties. As each of these groups of physiotherapists conduct out-patient clinics on Trust premises, a convenience sample of qualified physiotherapists was recruited from these specialties.

8.4.2 Sample Size

Preliminary discussions suggested that it should be possible to recruit eight physiotherapists from each of the three clinical specialties. Each physiotherapist was to be videotaped in consultation with four patients. The proposed sample size was thus 24 physiotherapists and 96 consenting patients, 32 from each specialty.

8.4.3 Inclusion criteria

Participating physiotherapists had to:

- be registered as a physiotherapist with the Health Professions Council,
- be employed by an NHS Trust which was accessible from Kingston upon Hull,
- treat musculoskeletal, cardio-respiratory, or neurological out-patients on Trust premises at the time of the study.

Patients were eligible for inclusion if they had been referred for out-patient cardiac or pulmonary rehabilitation, hyperventilation management, musculoskeletal or neurological physiotherapy, and they had to be:

- over 18 years of age;
- able to travel independently to the physiotherapy department;
- able to communicate in the English Language;

8.4.4. Exclusion Criteria

Patients were excluded if they:

- required hospital transport
- were under 18 years of age.
- had a problem which might have caused them embarrassment if it was captured on video, e.g. continence problems.
- had communication difficulties such as significant deafness, or expressive or receptive language problems.
- were unable or unwilling to complete the self-administered questionnaires independently.

8.5 Methodology

In order to recruit out-patient physiotherapists from selected Trusts, the author attended team meetings to invite staff to participate, and circulated information sheets (Appendix 8) which gave brief details of the study. When consent was taken from staff willing to participate (Appendix 9), arrangements for appointing new patients were reviewed to ensure that study protocols were followed. Suitable new patients at the top of the collaborating physiotherapists' waiting lists were invited to participate in the study by means of a letter from the physiotherapy department (Appendix 10) and an accompanying information sheet (Appendix 11). Two weeks after the letter and information sheet had been sent, the patient was contacted by physiotherapy staff to arrange an appointment. Patients unwilling to participate were offered an appointment as usual. Patients who were willing to participate in the study were invited to attend 15 minutes prior to their appointment. This enabled the researcher to confirm eligibility, answer any questions, obtain written consent to participation in the study, and to the use of a video-recorder (Appendix 12 and 13). At this meeting the patient was also handed the questionnaire pack.

The researcher then arranged the video camera in a cubicle away from other patients. Furniture was arranged according to the physiotherapist's preference. Once the camera was recording, the researcher left the cubicle. To avoid embarrassment, the physiotherapists were instructed to replace the lens cap if the patient was required to undress. The microphone was left recording the consultation. The consultation and examination proceeded according to standard practice for that particular condition. Both physiotherapist and patient were seen independently at the end of the consultation to ensure that neither wished to revoke consent. If either party changed their mind, the recording was erased. Staff were asked to recruit additional patients when problems arose due to non-attendance, poor quality recordings, or when either patient or physiotherapist revoked consent.

It was believed that the Hawthorne effect (Coolican, 2004) would reduce over time as the physiotherapist became accustomed to being observed. Therefore each physiotherapist would be observed in consultation with four patients. If, for some reason, it was not possible to use one of the videotaped consultations the

physiotherapist was asked to recruit another patient. Once all participating physiotherapists at each Trust site had been videotaped with four patients, a meeting was convened at which the video vignettes were shown, and the attitude questionnaires were administered. The meeting was conducted according to the methodology described in chapter 7. On submission of the completed vignette evaluation sheets and questionnaires the physiotherapist's involvement in the study was complete.

8.6 Data Cleaning and Reliability Checks

Data from the vignette evaluation sheets and attitude questionnaires were entered and cleaned according to the procedures outlined in chapters 5 and 7 of this thesis.
The videotaped consultations were not evaluated until all the recordings had been completed. This ensured that the videotapes were evaluated in a consistent manner. Each physiotherapist's performance was measured using the *Patient Involvement in physiotherapy Evaluation (PIE) tool* (Appendix 14). The development and testing of this tool is described in section 4.4.

An independent researcher randomly selected and evaluated ten of the video-recordings using the PIE tool, in order to assess the inter-rater reliability. The intraclass correlation coefficient for the two sets of PIE data was 0.72 (SEM 6.42). As a result of simplifying the PIE tool and replacing the manual by concise item descriptors, as described in section 4.4.3, the intraclass correlation coefficient had increased and the standard error of measurement had decreased compared with the pilot values. Inter-rater reliability coefficients of other molar communication instruments range from 0.54 (Ambady, La Plante, Nguyen *et al.*, 2002), to 0.78 (Martin, Jahng, Golin *et al.*, 2003). Therefore the inter-rater reliability of the PIE tool was considered to be acceptable.

8.7 Data Analysis

Consultation scores were entered manually into a database and analysed using SPSS for windows version 11.5. Some consultations were unable to be assigned a score for each PIE item either because of technical difficulties (i.e. inaudible sound, premature cessation of recording, interactions off camera), or because some of the

PIE items were "*Not Applicable*" to that consultation.

The total PIE scores were adjusted to account for missing items by dividing the observed PIE score by the total possible score over the number of applicable items and multiplying by 100 to obtain a percentage.

8.7.1. Normality of distribution

As the Central limit theorem could not be applied to 76 cases, the adjusted total PIE scores were plotted against the expected values for a Gaussian distribution. Figure 8.1 illustrates that this was within normal limits. A Shapiro-Wilks W test was also conducted. This tests the hypothesis that a random sample is derived from a Gaussian distribution. Small values of W indicate departure from normality (Altman, 1991). The results in table 8.1 demonstrate that for the purposes of this study normality can be assumed.

Figure 8.1: Q-Q plot of distribution of adjusted total PIE score

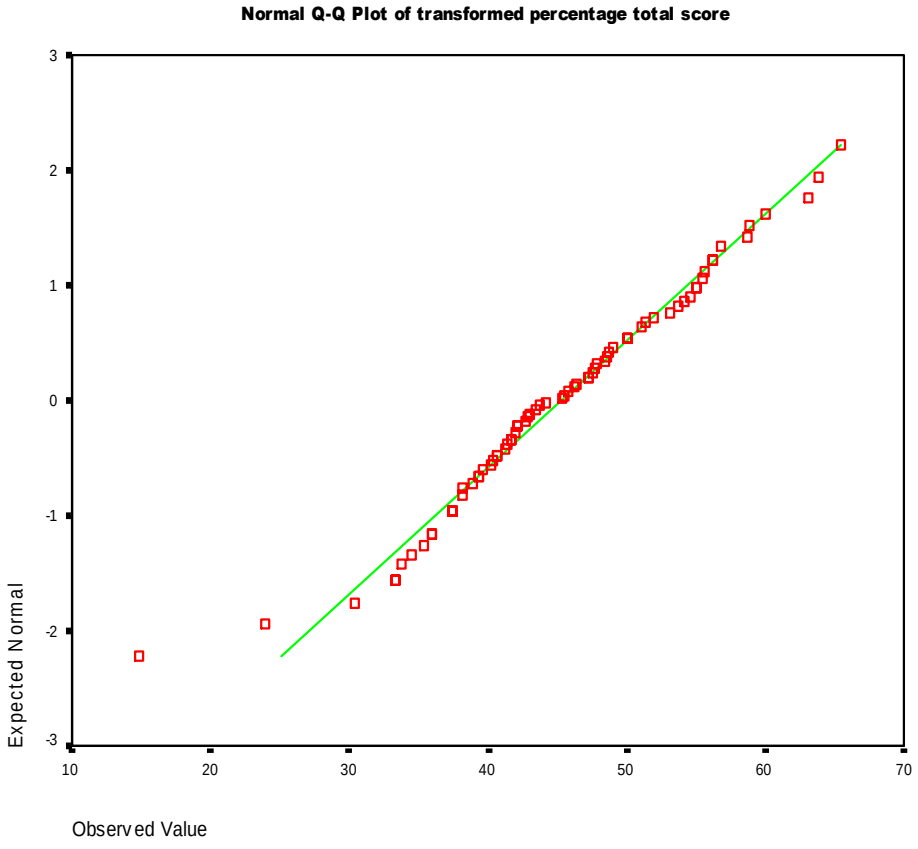


Table 8.1: Results of the Shapiro Wilk W test to determine whether the adjusted PIE scores are derived from a Gaussian distribution

Variable	Shapiro-Wilk		
	Statistic	df	Sig.
Adjusted PIE score	0.07	76	0.280

8.7.2 Statistical tests used to analyse data

As the adjusted data was normally distributed, parametric tests could be used. Pearson's Chi squared test was used to investigate whether differences existed between counts of data organised at nominal level. Comparisons between two group means were conducted using Students t-test. Where the means of three groups were to be compared, univariate between subjects ANOVA was used. Levene's test of homogeneity of variance was conducted initially in order to ensure that the data satisfied the requirements of an ANOVA test. Where several levels of the independent variable existed, the Tukey post hoc test was used as described in section 5.7. The Kruskal -Wallis H test was used to explore relationships between variables when the dependent variable was composed of more than two categories. It was also used when Levene's test suggested that variances between variables were not equal such that univariate between groups ANOVA could not be used (Kinnear and Gray, 2000). Pearson's correlation coefficient was used to test relationships between parametric data whilst Spearman's rho enabled relationships to be tested between ordinal level data, or where normality could not be assumed. In all cases statistical significance was assumed at the 95% confidence level.

8.7.3 Determination of most appropriate regression technique

As there were fewer than 100 sets of data, it was necessary to determine the number of predictor variables that can be regressed with this amount of data. Tabachnick and Fidell (2001) recommend the formula $N \geq 50+(8 \times p)$, where N is the number of cases, and p is the number of predictor variables. According to the above formula it is possible to conduct regression analyses with 76 cases using a maximum of three predictor variables. Each physiotherapist contributed more than one consultation, therefore it was necessary to investigate the possible clustering effect of the

physiotherapist on consultation scores. The inter-cluster correlation coefficient of the consultation PIE scores per physiotherapist was 0.35. Therefore the physiotherapist had to be entered into the regression analysis as a random factor.
A linear mixed model regression technique was required as it could accommodate for the variance in the number of videotaped consultations provided by each physiotherapist (SPSS incorporated, 2005a), and it could account for the influence of the physiotherapist in the final model.

8.8 Results

8.8.1 Recruitment

Eight cardio-respiratory and eight musculoskeletal physiotherapists of varying ages and years of experience were recruited. Only four neurological physiotherapists could be recruited due to maternity leave, and a reduction in out-patient caseloads. These 20 physiotherapists generated 76 videotaped consultations, 20.8% fewer than had originally been planned. Two of the five videotapes contributed by two of the cardio-respiratory physiotherapists were not usable owing to technical difficulties. It was not possible to recruit additional patients due to a temporary cessation of the service. One of the neurological physiotherapists only completed two consultations prior to her maternity leave.

8.8.2 Demographic details of physiotherapists

Table 8.2 illustrates the demographic characteristics of the three physiotherapy specialty groups. Pearson Chi squared test and Kruskall Wallis test revealed no significant differences in demographic variables between the three groups.

Table 8.2: Physiotherapists' demographic characteristics arranged by specialty (n=20)

VARIABLE	LEVELS	Cardio-respiratory	Musculo-skeletal	Neurology	χ^2(df)	P (test used)
Gender	**Male (n)**	2	2	0	1.25 (2)	0.63 (a)
	Female (n)	6	6	4		
Age (years)	**<25**	1	3	0	0.31 (2)	0.864 (b)
	26 – 30	2	1	2		
	31 – 40	3	1	2		
	41 – 50	1	2	0		
	51 -60	0	1	0		
	61+	1	0	0		
Experience (years)	**0 - 5**	1	3	0	0.28 (2)	0.865 (b)
	6 - 10	3	1	2		
	11 - 20	3	3	2		
	21 - 30	0	1	0		
	31 - 40	1	0	0		
	41+	0	0	0		
Grade	**Junior**	2	2	0	3.04 (2)	0.217 (b)
	Senior 2	1	1	0		
	Senior 1	2	4	2		
	Supt 3	0	1	0		
	Supt 2	1	0	0		
	Clinical specialist	2	0	2		
Location	**CHH**	10	12	2	0.83 (2)	0.734 (b)
	HRI	20	12	8		
	PRH	0	8	0		
	TPG	0	0	4		
Additional Communication training	**< 1 day**	1	0	1	0.65 (2)	0.742 (b)
	1 –2 days	1	3	1		
	11–15 days	0	1	0		
	1 - 3 months	1	1	0		
	No training	5	3	2		

(a) represents Pearsons Chi squared test using Fisher's exact test to accommodate for cells with content less than 5.
(b) represents Kruskall-Wallis H test with exact option.

8.8.3 Demographic details of patients

Table 6.1 in chapter 6 illustrates the demographic characteristics of the patients per specialty. It demonstrates that statistically significant differences existed between groups for certain variables. Whilst the aim of this study was to identify the

influence of physiotherapist variables on patient involvement scores, it is recognised that consultations are co-constructed (Buetow, 1998), and hence the effect of patient variables must also be considered as potential predictor variables.

8.8.4 The extent to which NHS physiotherapists involve their patients in the initial consultation.

Table 8.3 illustrates the distribution of PIE scores and modal values per item. The modal values indicate that, in all items other than: *small talk; elicited narrative; actively listened; treated patient as an equal;* and *gave clear explanations,* the categories used most frequently were *very unsatisfactory* or *unsatisfactory*. Twenty of the PIE items (55.6%) were either omitted (Very unsatisfactory), or used to no great effect (unsatisfactory) in over half of the consultations (n>38). Items which accrued the highest proportion of unsatisfactory or very unsatisfactory scores were: *Agreed progress marker* (91.4%); *Elicited patient's worries* (91.3%); *Invited patient to ask questions* (86.8%); *Enquired about effect of problem on patient's emotional well being* (84.2%); and *assessed whether patient had any treatment preferences* (82.4%).

Table 8.3: Distribution of PIE scores (n=76 consultations)

Items	Technical Difficulty/ Not Applicable	Very Unsatisfactory	Unsatisfactory	Acceptable	Good	Very Good	Modal Value
Therapist Introduction	29	0	37	2	5	3	U
Determined patient's preferred name	35	22	9	1	2	7	VU
Used small talk	0	0	9	33	24	10	A
Demonstrated empathy	4	23	12	18	15	4	VU
Explained purpose and structure of consultation	10	18	35	7	6	0	U
Invited patient to ask questions	0	47	19	1	4	5	VU
Elicited patient's narrative	0	1	26	31	16	2	A
Actively Listened	0	0	7	29	36	4	G
Responded to patient's signals and cues	17	25	13	8	12	1	VU
Physio summarised what they had heard	0	38	11	15	9	3	VU
Physiotherapist invited correction if summary was inaccurate	0	42	8	10	12	4	VU
Treated patient as an equal	0	0	7	31	32	6	G
Elicited patient's reason for attending	23	19	11	6	11	4	VU
Elicited patient's beliefs about problem	10	27	10	16	9	4	VU
Elicited patient's expectations	6	47	9	2	7	5	VU
Elicited patient's worries	7	49	14	2	4	0	VU
Dealt with patient's worries	2	24	13	19	17	1	VU

Items	Technical Difficulty/ Not Applicable	Very Unsatisfactory	Unsatisfactory	Acceptable	Good	Very Good	Modal Value
Explored effect of problem on recreational activities	0	6	21	19	19	11	U
Explored effect of problem on role within family & relationships	0	47	14	8	6	1	VU
Explored effect of problem on patient's work	4	24	12	17	13	6	VU
Enquired about effect of problem on patient's emotional well being	0	51	13	5	4	3	VU
Physio provided information about their problems with reference to patient's beliefs	26	22	10	8	10	0	VU
Physio provided information about their problems with reference to patient's explanatory terms	10	36	6	11	7	1	VU
Explored patients need for information	8	29	10	9	19	1	VU
Gave clear explanations	1	1	9	26	30	9	G
Checked patient's understanding of what had been said	2	43	12	13	5	1	VU
Checked acceptability of explanation	2	44	5	14	11	0	VU
Assessed whether patient had any treatment preferences	8	51	5	9	3	0	VU
Offered patient choice of treatment	8	39	5	15	8	1	VU

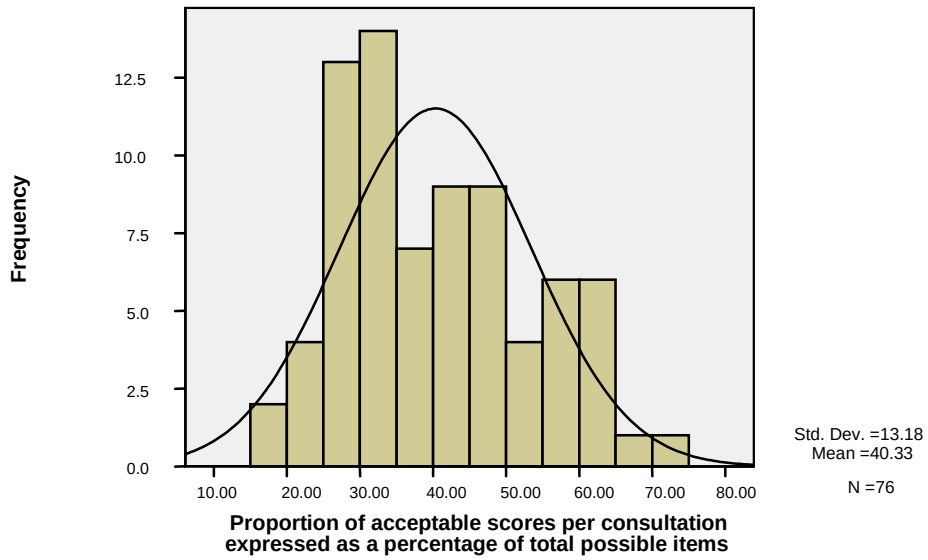
Items	Technical Difficulty/ Not Applicable	Very Unsatisfactory	Unsatisfactory	Acceptable	Good	Very Good	Modal Value
Presented evidence, experience, pros and cons when discussing treatment options	7	38	7	20	4	0	VU
Integrated patient information into treatment discussions	5	29	10	25	5	2	VU
Agreed treatment plan	7	25	30	11	3	0	U
Elicited patient's goals	9	45	8	6	8	0	VU
Agreed progress marker	6	57	7	6	0	0	VU
Negotiated need for further appointments	7	15	27	15	11	1	U
Offered future health advice	5	22	16	19	14	0	VU

The proportion of items, per consultation, which were performed to an *acceptable* standard, or above was calculated. None of the physiotherapists performed all 36 items to an acceptable standard in any of the consultations. However, as figure 8.2 illustrates that they did perform between 16.7% and 71.0% of items per consultation at or above an acceptable standard.

The highest proportion of items to be performed to an acceptable standard in one consultation was 71.0%. However, when the proportion of items that the physiotherapist had performed to an acceptable standard was calculated across 4 consultations the figure dropped to 55.2%. In order to determine the extent to which physiotherapists involve their patients in the initial consultation, the proportion of items performed to an acceptable standard, or above, was calculated *per physiotherapist* (i.e. across all consultations they conducted). Physiotherapists were considered to have made a reasonable attempt at involving their patients if they accrued acceptable, or above, scores in 50% of all the applicable PIE items. On this basis, 6 of the 20 physiotherapists made a reasonable attempt to involve their

patients across all the submitted video-recorded consultations. All six physiotherapists were female; four specialised in neurology, and two specialised in musculoskeletal physiotherapy.

Figure 8.2: Histogram to illustrate the proportions of items per consultation that were performed to a standard that was acceptable or above, corrected to exclude items that were not applicable.



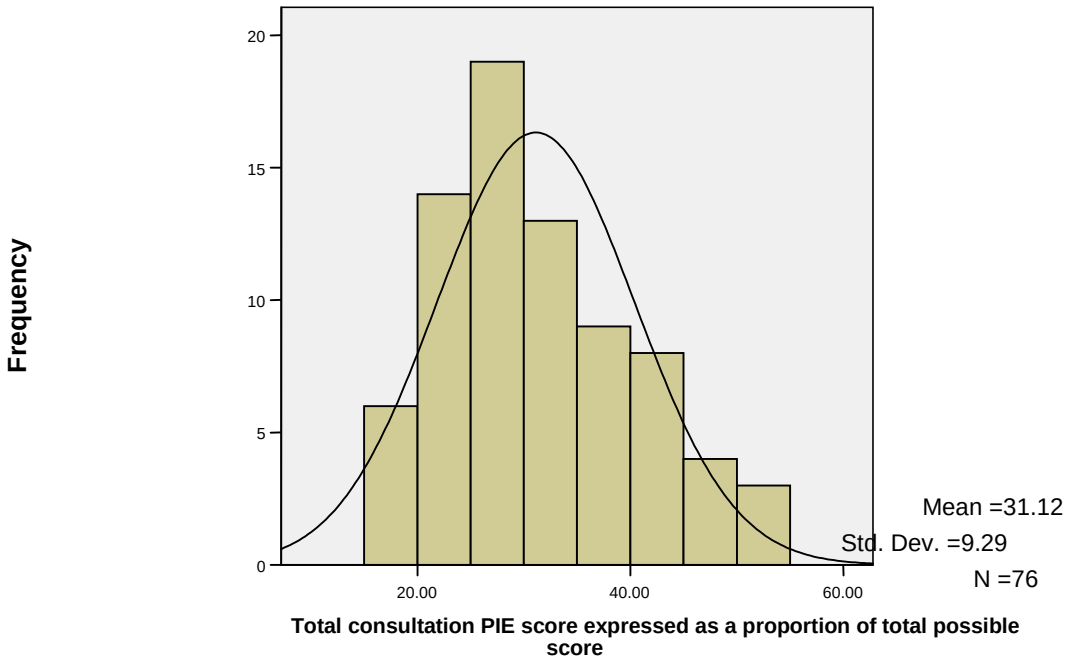
8.8.5 Total PIE scores

As the total PIE scores (as opposed to the proportion of items considered to have been performed to an acceptable standard), were expressed as a percentage, per consultation, and per physiotherapist, the values could range from a minimum of 0 to a maximum score of 100. Figure 8.3 illustrates that for this sample, total PIE scores *per consultation* ranged from 16.2% to 54.8%. The table of adjusted PIE scores per physiotherapist in appendix 15 shows the overall PIE scores *per physiotherapist* ranged from 18.9% to 42.6%.

In order to explore whether physiotherapists' became more or less patient-focussed as they were observed consulting with subsequent patients, an ANOVA was conducted of adjusted PIE scores per consultation compared with the consultation

number. This was not significant ($F_{(3, 72)}$0.40, p=0.753), and hence the results did not appear to have been influenced by a Hawthorne effect (Coolican, 2004).

Figure 8.3 Histogram to demonstrate distribution of PIE scores per consultation

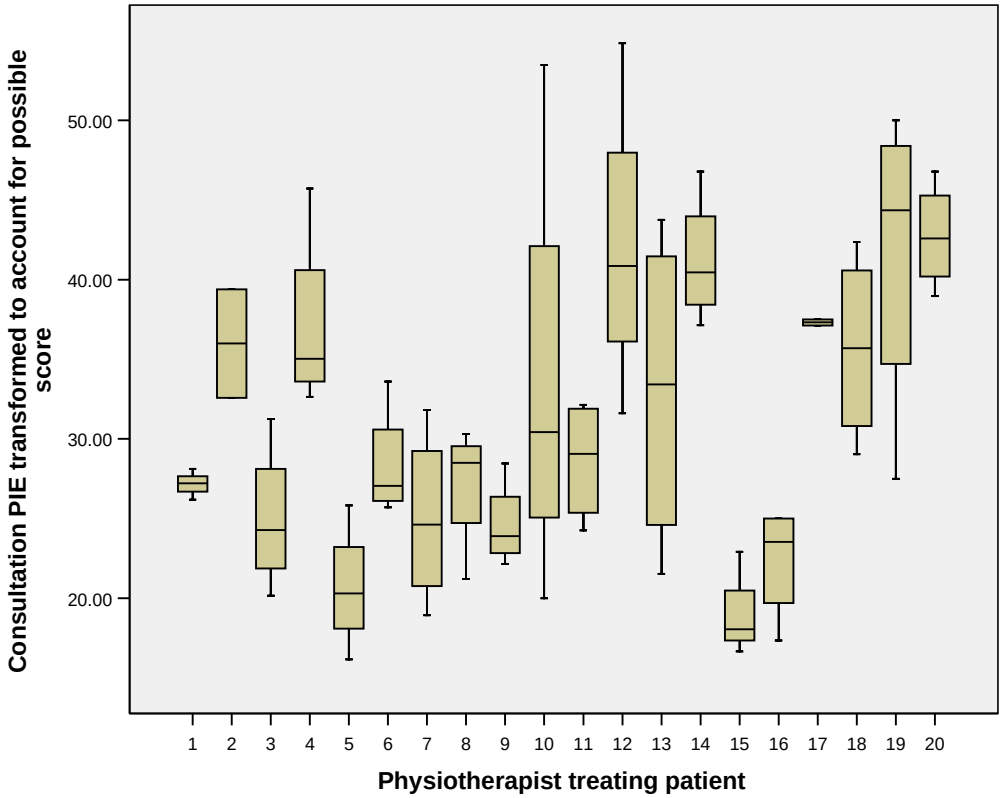


8.8.6. Variance in patient involvement per physiotherapist and exploration of clustering of scores according to the physiotherapist and specialty

The box and whisker plot in figure 8.4 illustrates the amount of variance in total PIE scores per physiotherapist. As Levene's test confirmed that variance was unequal between physiotherapists, a Kruskall-Wallis test was used to explore the variance between physiotherapists PIE scores. There was a significant difference between physiotherapist's PIE scores (p<0.001). The mean variance per specialty was as such: cardio-respiratory physiotherapists ($\overline{\chi}$=9.05); musculoskeletal physiotherapists ($\overline{\chi}$=14.58); neurological physiotherapists ($\overline{\chi}$=11.00). Hence musculoskeletal physiotherapists vary the extent to which they involve their patients more than the other specialty groups, whilst cardio-respiratory physiotherapists vary

their practice the least.

Figure 8.4: Box and Whisker plot to illustrate the extent to which physiotherapists' involvement of their patients varies between consultations



8.8.7 Variables which predict physiotherapists' ability to involve their patients in the consultation

Associations between the total PIE score (criterion variable), and both physiotherapist and patient predictor variables were investigated using students t-tests, one way between group ANOVA and Pearson correlation tests depending upon the number of levels and the type of data to be tested. Only variables which were significantly associated, or close to achieving a significant association, with the total PIE score, could be included in any regression analyses (Altman, 1991). These were: *location of consultation; clinical specialty; physiotherapist's experience; patient's marital status; number of years the patient spent in full time education; and patients who agreed with all items in the "Exploration of the patient's perspective" (component 3) sub-scale.* In section 8.7.3. the recommended number of predictor variables which could be used with a sample size of 76 was calculated to be three (Tabachnick and Fidell, 2001). This meant that only two fixed variables

could be entered into the analysis, in addition to the *physiotherapist* covariate. However, as most of the independent variables were categorical, except *number of years the patient spent in full time education*, a series of dummy variables had to be created. It was therefore not possible to incorporate all variables in the one model. By a process of elimination, the following dummy variables were consistently significantly predictive: *Experience <5 years; Experience 6 – 10 years; number of years the patient spent in full time education;* and *Consultations conducted at a satellite clinic (PRH).*

A higher PIE score was predicted by patients who had received no full time education beyond the age of 11. Only 2 patients fell into this category. When these two cases were removed, educational status was no longer predictive of the total PIE score. As this finding contradicts that of other studies (Ende, Kazis, Ash *et al.*, 1989; McKinstry, 2000) the variable was removed. The covariate *physiotherapist* did not exert a significant influence on any of the regression models, therefore, having reduced the number of predictor variables to three, and excluded the influence of the physiotherapist, a stepwise linear regression was conducted. The final model explained 14.3% of variance in total PIE scores. The two experience variables were excluded, as illustrated in table 8.4, thereby suggesting that the two members of staff who treated patients at a satellite clinic (*PRH)* were likely to accrue a total PIE score per consultation which was, on average, almost 12 points less than their colleagues who worked elsewhere.

Table 8.4: Variables which predict physiotherapists' ability to involve patients in their initial out-patient physiotherapy consultation.

	Unstandardized Coefficients		t	Sig.	95% Confidence Interval for B	
	B	Std. Error			Lower Bound	Upper Bound
(Constant)	32.44	1.06	30.72	<0.001	30.33	34.54
Location PRH	-11.80	3.23	-3.65	<0.001	-18.24	-5.35

8.8.8 Relationship between physiotherapists' perceived competence in communicating with patients and their ability to involve patients in practice.

All participating physiotherapists believed that they communicated competently with their patients. There is therefore no relationship between perceived competence in communicating with patients and ability to involve patients to an acceptable level clinically.

8.8.9 Relationship between Physiotherapists' Attitudes, Knowledge and Skill

Relationships between the PAPI-A scores, and those of its two sub-scales, total vignette discrepancy score, and the total physiotherapist PIE score, were tested using Pearson's product moment correlation coefficient. Unlike section 7.10.2, no relationship could be found between attitude and knowledge for the twenty physiotherapists who collaborated in this study. Likewise, no significant relationships could be found between any combinations of the above variables, thus suggesting that attitude, knowledge and skill were unrelated for this cohort of physiotherapists.

8.9 Discussion

This chapter has presented an in-depth observational study which investigated the extent to which physiotherapists involve their patients in an initial consultation. This study was important as it allowed for a direct observation and analysis of how physiotherapists actually conduct a consultation. It also enabled the relationship between physiotherapists' attitudes, knowledge and skill to be explored. The relationship between physiotherapists' perception of competence in communication and extent to which they actually involve their patients was also investigated. The implications of these findings will now be discussed.

8.9.1 To what extent do NHS physiotherapists involve their patients during an initial consultation?

As the skills required, and the opportunities available, to involve patients in a physiotherapeutic consultation have not been widely researched, it was considered appropriate to expect the physiotherapists to score *acceptable* rather than *good* or

very good for each item. For an item to have been performed to an acceptable standard it had to have been clearly attempted, although it may have been used inconsistently during the consultation, and therefore did not fully elicit the patient's involvement. For example, the physiotherapist may have gathered sufficient information but may not have utilised it appropriately, or they may have listened to the patient on one occasion, and interrupted inappropriately, or spoken over them on another occasion. None of the participating physiotherapists performed all 36 items to an acceptable standard. Six of the twenty physiotherapists were considered to have made a reasonable attempt at involving their patients in their videotaped consultations. This was based on the fact that they were observed performing at least half of the PIE items to an acceptable standard or above. Four of these physiotherapists specialised in neurology and two in musculoskeletal conditions. Interestingly, one of the musculoskeletal physiotherapists had previously specialised in paediatric neurology, thus lending some support to the possibility that clinical specialty may predict patient involvement ability.

Whilst 6 physiotherapists involved their patients to an acceptable standard, the remaining majority (n=14) of the sample did not appear involve their patients to the same extent. This finding is consistent with the limited research which has studied patient involvement in physiotherapy (Baker, Marshak, Rice *et al.*, 2001; Parry, 2004). Although these physiotherapists attempted a number of the PIE items, their overall consultation style appeared predominantly directive or controlling. This was a consultation style which traditionally dominated in medicine (Waitzkin, 1984). As a profession allied to medicine, it is possible that physiotherapists have modelled their consultation style on doctors possibly believing this would enhance their professional credibility with their patients and colleagues (Whitfield, Allison, Laing *et al.*, 1996). Doctor-patient communication has been the subject of much research over the past two and a half decades. This has led to increased awareness of the effect of doctors' communication style on patient outcomes (Daltroy, 1993; Ong, de Haes, Hoos *et al.*, 1995; Kinmonth, Woodcock, Griffin *et al.*, 1998; Bradley, Sparks and Nesdale, 2001). Consequently, doctors have, more recently, been afforded greater opportunities for postgraduate communication and patient involvement training. The same cannot be said for qualified physiotherapists.

Although their overall consultation style appeared directive, these 14 physiotherapists did perform between 7.6% and 27.2% of items to a standard that was *good* or *very good.* By comparison, four of the six physiotherapists who involved their patients to a fair extent, performed between 32.1% and 36.4% of items to a good standard. Hence all of the physiotherapists would have facilitated the patient's involvement in some aspects of the consultation. However it indicates that physiotherapists may benefit from guidance so that they become aware of the opportunities which exist to involve their patients in the consultation.

Appendix 15 illustrates that each physiotherapist varies in the extent to which they involve each patient in their consultation. Since most of the physiotherapists followed pre-determined proforma, the variance observed between consultations provided support for the belief, expressed in section 8.8.3, that patient-related variables may have influenced the extent to which the physiotherapist involved the patient in the consultation.

Physiotherapist's strengths lay in the *use of small talk, allowing the patient time to present their version of events, active listening, treating the patient as an equal,* and in *giving clear explanations*. By comparing this list with the list of empirical referents stated in section 2.13, it can be seen that most physiotherapists attempted to form an egalitarian relationship with the patient (attribute c, section 2.7). This type of relationship between patient and physiotherapist has been suggested to influence patient's beliefs about control over their condition (Klaber Moffett and Richardson, 1997; Klaber Moffett, 2000).

Items which contributed towards the attribute "*engaging the patient in the consultation"* (attribute a, section 2.7), included *inviting the patient's participation when stating the purpose and structure of the consultation*; i*nviting the patient to ask questions; eliciting the patient's narrative using open questions, actively listening to the patient, eliciting the patient's reason for coming,* and *eliciting their worries/concerns.* Whilst the physiotherapists actively listened to the patient effectively in all except seven consultations, the patient was either not invited to ask questions, or this was performed ineffectively, i.e. as the patient was leaving the consultation, in 86.8% of consultations. This was one of two items which the six

physiotherapists who made the best attempt at involving their patients consistently performed unsatisfactorily. The standard to which physiotherapists performed the other items varied. Hence, it is possible to see that in some aspects of the consultation, the physiotherapist appears to be attempting to involve the patient, whilst, at other times, the patient's engagement may be discouraged. This lack of consistency can inhibit the patient's willingness to participate overall (Entwistle, Watt, Bugge *et al.*, 2002). The patient's satisfaction with the degree to which they believe that they have been involved in the consultation will depend upon which aspects of the consultation they recall (Ley, 1982; Becker, 1985), and on their expectations of that consultation (Stewart, Meredith, Brown *et al.*, 2000). Hence whilst it is important that patients believe they have been involved in the consultation to the extent that they desired, patient's perceptions of involvement in decision-making have been suggested to be unreliable as they do not relate to the health care professionals' behaviour (Entwistle, Watt, Gilhooly *et al.*, 2004).

Other items which received the highest proportion of *unsatisfactory* or *very unsatisfactory* scores were: *Agreed progress marker* (91.4%); *Elicited patient's worries* (91.3%); *Enquired about effect of problem on patient's emotional well being* (84.2%); and *Assessed whether patient had any treatment preferences* (82.4%). The latter three items are all associated with the patient's psychosocial well-being and personal opinion. The above items contribute to the following attributes of patient involvement respectively: *"The final outcome is mutually accepted and has taken account of the patient's concerns, beliefs, preferences and views"* (attribute f, section 2.7); *"The physiotherapist engages the patient in the activity in which they are to be involved"* (attribute a, section 2.7)*; "Information exchange occurs between the physiotherapist and the patient"* (attribute g, section 2.7)*;* and *The physiotherapist offers the patient decisional control and responsibility" (*attribute b, section 2.7).

The finding that physiotherapists perform well at developing relationships but perform poorly in affective communication tasks is consistent with research into doctor's communication styles (Duffy, Hamerman and Cohen, 1980; Barry, Bradley, Britten *et al.*, 2000; Britten, Stevenson, Barry *et al.*, 2000). However, it is of concern that physiotherapists avoid or do not avail themselves of opportunities to

explore patient's emotional well-being and worries, since this has been associated with poorer treatment outcomes (Gard and Gyllensten, 2000; Stroud, Thorn, Jensen *et al.*, 2000), and an increased likelihood that patient's maladaptive beliefs may lead the patient with low back pain to develop chronic problems, unless these beliefs are elicited and addressed (Linton, 2000). In addition, there are a number of patients who fail to complete their course of physiotherapy treatment due to the perception that the treatment is not effective (Campbell, Evans, Tucker *et al.*, 2001). If physiotherapists are not eliciting patients concerns and preferences, they are unlikely to identify the patients who hold such beliefs until they default on their appointments.

The six physiotherapists who made the best attempt to involve the patient in the consultation, all failed to involve the patient in agreeing a patient monitored progress marker. The identification of subjective and objective markers is a requisite of the CSP Core Standard 7.3 and 7.4 (Chartered Society of Physiotherapy, 2000), is an aspect of care in which the patient can be involved (Payton and Nelson, 1996), and has been suggested as a means of improving adherence (Cecil and Killeen, 1997) and increasing motivation to succeed (Miller and Rollnick, 1991). Parry (2004) suggests that physiotherapists and patients may develop a tacit understanding regarding the nature of certain treatment goals. Thus it may also be the case that a patient, who presents with low back pain which is exacerbated by sitting, might use pain behaviour during sitting as a measure of the success of the physiotherapeutic intervention. Whilst this may be the case, it cannot always be assumed that both patient and physiotherapist think alike, and that however obvious it may seem, it is good practice for the physiotherapist and patient to agree what would be a meaningful measure of outcome.

8.9.2 Can variables predict the extent to which physiotherapists involve patients in the consultation?

As the numbers of collaborating physiotherapists, and patients were low, it was not possible to regress all possible predictor variables in one model. Consequently, it is possible that, had there been more cases, the final model may have differed from that suggested in section 8.8.7.

This regression analysis suggested that two physiotherapists, who worked in one of the satellite physiotherapy departments (PRH), were likely to score almost 12 points less on the PIE scale than colleagues who worked elsewhere. As this was a senior physiotherapist and a rotational junior member of staff, one hypothesis for this discrepancy might be that in modelling a more senior colleague (Bandura, 1977; Maudsley and Strivens, 2000), the junior physiotherapist has adopted a more controlling mode of assessment than would have been the case had she worked elsewhere. A second hypothesis was that, as the catchment area for the satellite clinic included areas of social deprivation, and a higher proportion of older residents, the patients may have indicated a preference for a more directive approach (McCann and Weinman, 1996; McKinstry, 2000). However, only one of the 7 patients was over the age of 65, three of the seven patients worked, and 4 of the patients agreed with all PAPI-B items, whilst five patients agreed with all three sub-sections of the PAPI-B. Hence, the second hypothesis is unsubstantiated. Finally, this might have been a spurious finding owing to the small number of physiotherapists involved.

There were suggestions throughout the results that patient orientated variables may have predicted patient involvement. Due to insufficient numbers of cases, no predictive relationships were found between total PIE score, and the patient variables *marital status, years in education,* and *attitude towards the physiotherapist exploring their perception of their problem.* A large national study of communication in Holland (n=2784) found that more educated patients were asked less questions and given more information (de Haes, 2004), although conversely, a study of women's treatment preferences for menstrual problems, found a higher education to be predictive of a likelihood of having a treatment preference (Coulter, Peto and Doll, 1994). Whilst no evidence was found to support the predictive nature of the other patient variables, it does appear that the patient's educational level does seem to influence doctor's consultation behaviours. It is thus recommended that this study be repeated on a larger sample, in order to gain a better understanding of the patient variables which might influence the extent to which physiotherapists involve patients in their care.

In section 8.8.6 it was noted that some physiotherapists varied more than others in

the extent to which they involved different patients. This may be because the physiotherapists who demonstrated more variability in their consultation style were more acutely aware of patients' differing needs and preferences for involvement. However, a study of doctors' consulting behaviours found that doctors' partnership building and active patient participation were mutually influential (Street, Krupat, Bell *et al.*, 2003). Hence the physiotherapists' behaviours might reflect the extent to which patients actively participated in the physiotherapy consultation. Some studies of doctors' consultation behaviours have been criticised for failing to consider the influence of the patient (Britten, 2003). In light of the above findings, this might also be a limitation of this study and of the PIE tool. Hence it is recommended that a future study is undertaken to explore how often patient-related behaviours prompt the physiotherapist to use inclusive behaviours, compared with the number of instances that the physiotherapist routinely initiates partnership-building behaviour.

The cardio-respiratory physiotherapists in this study used proforma consisting of a number of closed, or limited scope questions to assess patients' suitability to participate in a rehabilitation class. Therefore the patient had fewer opportunities to participate (Lipkin, 1996), and hence it is not surprising that these consultations showed the least variance.

As was noted in section 8.9.1 of the six physiotherapists who involved their patients to an acceptable standard, four specialised in neurology, and two in musculoskeletal physiotherapy. One of the musculoskeletal physiotherapists had recently moved into this field, having previously specialised in neurology. This suggests that, had there been greater numbers of staff representing this area of specialism it may have been predictive of greater patient involvement. The questionnaire did not enquire about previous physiotherapeutic experience, as junior (band 5) and some senior staff (band 6 & 7) move from one specialty to another on a four to six monthly basis. However, the musculoskeletal physiotherapist mentioned above had many years of experience in the neurology field. Therefore, whilst section 7.10.2 suggests that expertise might be a variable which could account for some of the unaccounted variance in the regression modelling, expertise is difficult to quantify (Resnik and Jensen, 2003). In addition, the length of time that expertise is retained should the physiotherapist move into another clinical area is unknown.

Training was not predictive of better performance in patient involvement. There are a number of possible reasons why that might be. Firstly, this thesis has demonstrated that the potential for patient involvement is wider than previously believed. Hence, communication training courses may not deal with this aspect of care to any depth. Secondly, half of the physiotherapists believed that patients should be involved in all aspects of care, yet almost all believed that they already communicated effectively. Personal awareness motivates a learner to engage with the subject matter that is being taught. Hence they will have no desire to change unless they can be persuaded that their practice is not as effective as they thought (Kinderman and Humphris, 1995; Jenkins and Fallowfield, 2002), and that patient involvement is both desirable and possible (Dickson, Hargie and Morrow, 1989). However, medical training and continuing education programs rarely undertake an organized approach to promoting personal awareness (Novack, Suchman, Clark *et al.*, 1997). Thirdly, it has been suggested that intention to change (Francke, Garssen and Huijer Abu-Saad, 1995) plays a part in the transfer of skills from the classroom to the patient, but without additional supervision (Heaven, Clegg and Maguire, 2006), or post training workshops (Razavi, Merckaert, Marchal *et al.*, 2003), professionals revert back to their previous consultation methods (Maguire, Booth, Elliott *et al.*, 1996).

8.9.3 Is there a relationship between perceived competence in communicating with patients and the extent to which physiotherapists actually involve their patients in the consultation?

All physiotherapists believed that they were competent communicators, however only 6 physiotherapists involved their patients to an acceptable standard. This discrepancy between self-efficacy and actual practice is consistent with a study of the effectiveness of health information exchange between doctors and their patients (Lukoschek, Fazzari and Marantz, 2003). The study found that patients were less likely to understand what had been said if their doctor considered him/ herself to be a competent communicator when compared with patients who received information from less confident doctors. A similar finding, which also focussed on doctors' perceived competence in delivering health education, suggested that both doctors and almost one quarter of the patients overestimated the extent to which information

had been discussed (Makoul, Arntson and Schofield, 1995).

Such findings indicate that physiotherapists and doctors lack insight into their own levels of competence. It also suggests that physiotherapists may be unaware of what constitutes effective patient involvement, or they may not realise that what they do in practice does not constitute effective patient involvement. It is possible that physiotherapists mistake getting on well with the patient, with being a competent communicator (Willson and McNamara, 1982). It would be helpful therefore for physiotherapists to have the opportunity to compare their practice against that of an expert, so that they might recognise their deficits, learn what constitutes effective involvement and thus be in a position to alter their consultation behaviours accordingly.

8.9.4 Is there a relationship between physiotherapists' attitudes towards patient involvement, their ability to recognise effective practice in patient involvement and the extent to which they involve their patients in the consultation?

No relationship could be found between the physiotherapist's attitudes, knowledge, and the extent to which they involved their patients in the consultation in this study. This suggests that physiotherapists may actively support the idea of patient involvement, but may not know how to involve the patient in practice, and hence any attempts to do so in practice might be ineffective. Three of the six physiotherapists who involved their patients to an acceptable standard, were able to recognise effective patient involvement, whilst two more were one discrepancy point outside the cut point. However, the physiotherapist who scored the highest PIE score was 5 points outside the cut point for the vignettes. Hence, it appears that some physiotherapists might instinctively involve their patients in certain aspects of the consultation, without necessarily understanding what constitutes effective involvement. It is not surprising that a physiotherapist might support patient involvement but not have the skills to involve them in practice. Conversely, it is more surprising to find that a physiotherapist who actively involves their patients does not agree with all PAPI-A items. Three of the six physiotherapists who involved their patients to a reasonable extent, failed to agree with all PAPI-A items. Whereas one disagreed, or was uncertain of which response to give (neither agree nor disagree), to 7 items, the other two physiotherapists disagreed with only two

items. One of these was item 16, which, as discussed in section 5.14.1, could be considered to be directive. Hence there is a suggestion that this method of identifying physiotherapists who support patient involvement may be too stringent, and has excluded physiotherapists who could be justified in disagreeing with certain PAPI-A items. Alternatively, as attitude scores and patient involvement scores were summed, this may have reduced the specificity (Katz, 1982), and hence a predictive relationship could not be found. To test this theory, physiotherapist's attitude, knowledge and skill scores were correlated for the item "*active listening*". Physiotherapists' attitudes and knowledge were unrelated as were attitude and skill, and knowledge and skill.

8.9.5 Strengths of the study

This in-depth observational study of actual physiotherapy consultations has provided valuable insight into a relatively unexplored aspect of physiotherapy practice in the UK. It has identified areas of practice in which physiotherapists are competent, and areas in which practice could be improved. It has also explored the influence of clinical specialty on physiotherapists' ability to involve their patients in the initial consultation.

The PIE tool is an instrument which has good reliability, and which has been designed to reflect the skills required to facilitate a patient's involvement in an initial out-patient consultation. It is as reliable as other molar communication assessment tools, and provides a means of exploring which aspects of the consultation, the physiotherapist involves the patient, but also assesses how well the physiotherapist performed each task. The score system can be adjusted to take account of aspects of the consultation which do not lend themselves to patient involvement. Hence the tool does not penalise the physiotherapist if the patient takes control of the consultation. This study will enable other physiotherapy researchers to compare their own area of practice against the findings in this study.

8.9.6 Limitations

There was a 20.8% shortfall in the number of consultations that were recorded. This was predominantly due to difficulties in recruiting neurological physiotherapists. Although physiotherapists were willing to participate, a situation was identified

in which staff were employed by one primary care Trust, worked in premises owned by another, and treated patients from a number of neighbouring Trusts. Consequently, a debate ensued between NHS Trust research governance committees regarding who should take responsibility for this application. It took 5 months for them to reach an agreement which excluded two staff members and allowed the study to proceed with one from a neighbouring Primary Care Trust. This delay was compounded by the theft of the video camera which meant that by the time a replacement had been obtained a member of the neurology staff had commenced maternity leave, her out-patient clinic had been suspended, and the junior member of staff had rotated to a different clinical area.

As this study recruited physiotherapists who worked in and around Kingston upon Hull, it could be said that the observed consultation techniques reflect local culture and methods. In this way the findings may not reflect physiotherapists' practice in other areas of the country, although the participating physiotherapists trained at a number of different Universities and some have worked in other UK Trusts.

The capture and analysis of the data in this study was very time consuming. Hence it would not have been practical to recruit more than 100 patients. Larger studies have been conducted in primary care research which utilised teams of researchers to analyse between 500 and 700 consultation tapes (Roter, Hall, Kern *et al.*, 1995; Roter, Stewart, Putnam *et al.*, 1997). In order to ensure that inter-rater reliability remains within acceptable limits, such research teams require extensive training in the use of an instrument. The *Roter interaction analysis system (RIAS)* (Roter and Larson, 2002), has been used for this purpose as it is similar to conversation analysis, and thus only assigns codes to actual verbal utterances. This removes the inaccuracies associated with the interpretation of non verbal behaviours. However, such methods require extensive funding which was not available for this current research and cannot provide the same depth of information as in this study.

As this study required instrumentation to gather data, whilst every effort was taken to prevent operator error or technical faults, inevitably a few consultations were lost. This was mainly due to poor sound quality or, in some cases, camera movement so that the patient and physiotherapists were no longer in shot. Such problems could not be foreseen.

The physiotherapists who consented to be involved in this project were predominantly non-rotational senior or clinical specialist staff. As junior (band 5) staff move between clinical specialties every four months, and senior 2 (band 6) staff change every six months, by the time that staff had gained sufficient experience and confidence to be videotaped, there was little time to recruit sufficient patients before the physiotherapist moved to another clinical area. Another limitation to recruiting more junior staff was that in acute hospital Trusts, out-patient services tend to carry the staff vacancies to ensure that in-patient areas are adequately staffed. Such vacancies tend to be in more junior posts. Hence, had the staff grades been more evenly distributed, experience might have been a predictive of reasonable competence in patient involvement.

A limitation of studying out-patient consultations is that it is not known whether this knowledge may be transferable to in-patient situations where patients are less able to participate (Waterworth and Luker, 1990; Effraimsson, Sandman, Hyden *et al.*, 2004), and staff have less time to spend with each patient. However, it could be said that this is a best case scenario, since staff have more time to gather all the necessary information in an initial out-patient consultation (Payton and Nelson, 1996), and patients have had time to reflect on what they want to communicate (McKinley and Middleton, 1999).

Whilst the inter-rater reliability for the PIE tool was within acceptable limits, some items may require further clarification to enhance reliability. For example, the timing of an item appeared to influence the degree to which it facilitated the patient's involvement. Hence, inviting a patient to ask questions at the start of the consultation is more effective than at the end. Similarly, the degree to which an item was used influenced the patient's participation. Hence eye contact can indicate that the physiotherapist is listening attentively (Silverman, Kurtz and Draper, 1998) whereas excessive amounts of eye contact can be intimidating. Some items could only be judged at the end of the consultation (i.e. empathy), whilst others were able to be scored as they occurred (i.e. enquires about patient's reason for attending), and hence each consultation required several viewings in order to reliably assess the different aspects of the consultation.

Whilst the PIE tool did not penalise the physiotherapist if the patient took control of aspects of the consultation, as was recognised in section 8.9.4, it did not reflect the patient's contribution to the consultation. Hence the physiotherapist may have tried to enlist the patient's involvement, but if this was unsuccessful it is human nature for the physiotherapist to revert to a more directive style of consultation, believing this to be what the patient preferred. In this situation, the physiotherapist's final PIE score would have been low, and would not have reflected the patient's reluctance to participate. This suggests that it may be necessary to further develop the PIE tool to reflect the extent to which the patient participates in the consultation.

8.10 Conclusions

Most physiotherapists in this study did not effectively employ strategies to facilitate their patient's involvement in the physiotherapy consultation, despite believing that they all communicated effectively with their patients. Opportunities to involve patients in their care were missed. Whilst the physiotherapists treated the patient as an equal, they were not effective in eliciting the psychosocial aspects of patients' illness experiences, or their personal preferences. The only variable which predicted the extent to which a patient was involved, was location. It was hypothesised that the junior physiotherapist in this location modelled their consultation style on that of a senior member of staff who used a directive approach to patient communication. As this was a small satellite unit the junior would not have had access to other senior staff to challenge this approach. This study under recruited by 20%. It is possible that physiotherapist variables such as amount of experience, and patient – related variables might have proved to be predictive of patient involvement had greater numbers of consultations and physiotherapists been studied.

No relationships were found between attitudes, knowledge and skills in this sample of physiotherapists.

Chapter 9:

An overview of the findings from the four studies in relation to the attributes which define patient involvement in physiotherapy.

9.1 Introduction

This chapter draws together the findings from the four different studies, and explores them in relation to the seven attributes which have been identified for the purpose of this thesis as defining patient involvement in physiotherapy. The implications of these findings will be discussed in the following chapter.

9.2. The physiotherapist shares power or control of the consultation thereby engaging the patient in the activity in which they are to be involved (Attribute a).

PAPI-A item 5 (*I should listen to everything that the patient has to say about their problem*) and vignette evaluation item 3 (*Physiotherapist "actively" listens to what the patient has to say*) addressed referents within this attribute. Table 6.6 shows that fewer physiotherapists (83.5%) than patients (86.3%) believed that they should listen to everything that the patient has to say, although the figures did not differ significantly (p=0.054). However the figures do suggest that a significant minority of physiotherapists (16.5%) are uncertain, or do not believe that they should listen to everything that the patient has to say. All physiotherapists encounter patients who deviate from the point in question to share anecdotes and seemingly unrelated points of interest. However, the skill lies in steering patients' narrative back onto relevant topics without coming across as disinterested in them as a person, or not valuing their point of view (Silverman, Kurtz and Draper, 1998). Hence the physiotherapist should listen to what the patient has to say, but they may need to find an appropriate way of redirecting the topic of conversation, rather than ignoring what that person has to say, cutting them off abruptly without explanation, or speaking over them.

The majority of physiotherapists (n=152; 59.8%) were able to recognise effective listening across all three vignettes. This was also an item at which physiotherapists

in the observational study excelled since the minimum acceptable standard was met in 91% (n=69) of the consultations.

Five other PIE items also explored the extent to which physiotherapists engaged the patient in the consultation (*Explains purpose and structure of consultation; Invites questions; Elicits patients worries/ concerns; Elicits patient's narrative; Explores reason for coming to physiotherapy*).

None of the physiotherapists performed all of these 6 items to an acceptable standard. One neurological physiotherapist did perform five of the above items to an acceptable level in one consultation, but failed to invite the patient to ask questions until the end of the consultation.

Physiotherapists adequately explained the purpose and collaborative nature of the consultation in only a minority of consultations (n=13; 20%). This is consistent with other research (Baker, Marshak, Rice *et al.*, 2001). Patient involvement in physiotherapy has become associated predominantly with goal setting (Arnetz, Bergstrom, Franzen *et al.*, 2004; Wottrich, Stenstrom, Engardt *et al.*, 2004). It is not surprising therefore to find that patients are seldom made aware of the need for their participation in the consultation until they are invited to discuss their reason for attending. However this was also omitted in a number of the observed consultations (n=19) when its use would have been appropriate. In summary, physiotherapists appeared to offer their patients few opportunities to share control of the consultation. However the physiotherapists actively listened when patients volunteered information.

9.3 Decisional control and responsibility are offered to the patient (Attribute b).

PAPI-B items 16 (*I want the physiotherapist to be interested in what I want done*) and 17 (*I want the physiotherapist to be interested in what treatment I want*) and the matching PAPI-A items (17 & 18) related to this attribute. Table 6.6 illustrates that similar proportions of physiotherapists and patients (83.3% and 82.3% respectively) believed that the physiotherapist should elicit patients' treatment preferences (item 17). Whilst 92% of physiotherapists believed that they should be interested in what the patient wants done, it was interesting to find that fewer patients (78.1%) agreed with item 16. However, this is still a substantial number of patients who, like the physiotherapists, believed that the patient's expectations of what they want the

physiotherapist to do, and what treatment they wished to receive, should be discussed.

Item 7 on the vignette evaluation sheet (*Overall, how effectively do you think the physiotherapist involved the patient in this consultation?)* was associated with this attribute. Just over half of the physiotherapists (n=134; 52.8%) accurately assessed the simulated physiotherapist's effectiveness in this item.

Table 8.3 shows that the proportion of applicable consultations performed to an acceptable standard in the PIE items which reflected physiotherapists' ability to share decisional control or responsibility were as follows: *offers* a *choice of treatment alternatives (35%; n=24), elicits the patient's treatment preferences (18%; n=12), collaborates with the patient in setting suitable goals (21%; n=14)* and *negotiates the need for further appointments (39%; n=27).*

In summary, whereas both physiotherapists and patients indicated that they believed involvement in treatment decisions was an important aspect of patient involvement, the finding that only one musculoskeletal physiotherapist, in one consultation, was observed to undertake all 4 items to an acceptable standard suggests that physiotherapists may not routinely share decisional control with their patients.

9.4 An egalitarian therapeutic relationship must exist between patient and physiotherapist (Attribute c).

Table 6.6 suggests that a high proportion of physiotherapists (93.9%) and patients (93.2%) believed that the patient should be treated as an equal (PAPI-A item 11; PAPI-B item 10), and that the physiotherapist should be friendly and approachable (99.5% and 98.6% respectively; PAPI-A item 12; PAPI-B item 11).

However, only 37.4% of physiotherapists (n=95) who participated in the vignette study were able to recognise when the simulated physiotherapist treated the patient as an equal (item 2) and when she encouraged the patient to tell their story (item 3).

The PIE items derived from the empirical referents for this attribute are listed below followed by the proportions of possible consultations performed to an acceptable standard by the participating physiotherapists: *Physiotherapist introduces him/herself (21%; n=10); Elicits patients preferred name (24%; n=10); Uses*

small talk, smiles and humour (88%; n=67); Displays empathy (51%; n=37); Treats patient as an equal (91%; n=69).

It can be seen that the "*use of small talk"*, and "*treating the patient as an equal"*, were items which the physiotherapists performed well. One cardio-respiratory physiotherapist performed two of her four consultations to an acceptable standard in all five PIE items for this attribute.

In summary, although most physiotherapists and patients supported this attribute, the high vignette discrepancy scores for these items and the finding that only one physiotherapist performed all five items to an acceptable standard suggests that many physiotherapists do not know how to achieve an effective egalitarian relationship.

9.5 The patient must perceive the existence of a legitimate choice or reason to perform the activity (Attribute d).

Neither of the PAPI questionnaires nor the vignette evaluation sheet explored this attribute. Hence physiotherapists' and patients' beliefs about the legitimacy of the choices available in a physiotherapy consultation are not known. Whilst it would have been of interest to know what physiotherapists and patients consider to be a legitimate choice, this is a study in itself, and was thus beyond the scope of this thesis.

The PIE item *"Discusses evidence, experience, pros and cons"* related to this attribute. Twelve physiotherapists (60%) performed this item to an acceptable standard in 24 of 69 possible consultations (35%). A neurology specialist achieved this in three of her four consultations, whilst the musculoskeletal and cardio-respiratory specialists were each observed performing these items to an acceptable standard in only one consultation.

In summary, physiotherapists in the observational study did not routinely inform their patients of available treatment options and more importantly did not discuss the risks and benefits associated with the proposed treatment plan.

9.6 The patient must be willing to participate to some extent in the decision or activity (Attribute e).

As with the previous attribute, the PAPI-A questionnaire and vignette evaluation sheet did not explore physiotherapists' attitudes or knowledge relating to this attribute. One PIE item, (*physiotherapist responds to patient's signals and cues),* only partially matched this attribute, as the PIE tool was designed to elicit physiotherapist's responses rather than those of the patient.

Whilst doctors have been found to be poor at recognizing patients signals and cues (Say and Thomson, 2003), 70% of the physiotherapists (n=14), were observed to have noticed a signal or cue, and had pursued this through further questioning in 36% (n=21) consultations where this was appropriate. In summary, whilst many physiotherapists appeared to respond to patient's signals and cues, this was not consistently apparent across all consultations. Thus, it may have been the case that in some consultations, the patient made it clear that they wished to discuss a previously unvoiced issue.

9.7 The final outcome is mutually accepted and has taken account of the patient's concerns, beliefs, preferences and views (Attribute f).

PAPI-B items 14 (*I want the physiotherapist and I to discuss and agree what the problem is together);* 18 (*I want the physiotherapist and I to discuss and agree the treatment together*) and 19 (*The physiotherapist alone should decide on the treatment without discussion*), and the equivalent PAPI-A items (15, 19 and 20), were related to this attribute. Table 6.6 indicates that similar proportions of physiotherapists (92%), and patients (90.4%) believed that they should "*discuss and agree what the problem is together"*. Equally, both physiotherapists (96.2%) and patients (93.2%) believed that they should "*discuss and agree the treatment together"*. However, whilst 16.4% of patients preferred to "*leave treatment decisions to the physiotherapist"*, it is of concern that a small minority of physiotherapists (n=11) believed that they should decide what treatment to give without consulting the patient whilst 17 were uncertain how to respond. It is mandatory that a physiotherapist should not proceed with an intervention without first obtaining a patient's consent, unless it is saving life, or the patient does not

have the capacity to consent (Department of Health, 2001a). Three of these physiotherapists worked in intensive care and hence their patients may often be unable to consent. Two physiotherapists worked on an acute stroke unit where some patients may not be fully conscious or have capacity to consent. However, a further 11 musculoskeletal physiotherapists, 2 orthopaedic specialists, three junior staff and one surgical therapist did not agree with this item.

The PIE items relating to this attribute are listed followed by the proportion of applicable consultations in which the item was performed to an acceptable standard: *"Checks acceptability of explanations" (34%; n=25); "Uses patient information" (45%; n=32); "Negotiates/agrees treatment plan" (20%; n=14); "Agrees progress marker" (9%; n=6).*

None of the physiotherapists performed all four PIE items to an acceptable standard. This was because so few physiotherapists helped the patient to identify a suitable measure of progress. Five physiotherapists (25%) achieved acceptable scores in the other three items. Three of these were musculoskeletal physiotherapists and two were neurology specialists. However this was observed in only 6 of the consultations (7.9%).

In summary although the majority of physiotherapists and patients value the importance of achieving a mutually acceptable outcome which reflects the patients patient's concerns, beliefs, preferences and views, in practice this was not achieved. This finding may support the suggestion made in section 9.2 that as patient involvement has been predominantly associated with goal setting, physiotherapists are unaware that other opportunities exist to involve their patients.

9.8 Information exchange, both psychosocial and biomedical, takes place between the physiotherapist and the patient to achieve a shared understanding of the patient's problem, its effect on the patient's life and of the available management options (Attribute g).

It is in this attribute that the differences in factor structure between the PAPI-A and PAPI-B items are most pronounced. Five PAPI-A items relate to this attribute (items 4, 6, 7, 14 and 16), whilst only three PAPI-B items are related (items 5, 7 and 8). One item (*I want the physiotherapist to be interested in what I think the*

problem is; PAPI-B 5; PAPI-A 6) is comparable between the two questionnaires. Table 6.6 suggests that whilst 96.6% of physiotherapists believed that they should be interested in what the patient thinks the problem is, only 86.3% of patients shared this belief. When this is compared with patients' responses to other similar items regarding their beliefs that the physiotherapist should be interested in their thoughts, a consistent picture emerges, which suggests that between 13.7% and 18% of patients (n=10-13) believed that the physiotherapist should adopt an authoritative role, whilst they should adopt a passive role in the consultation.

The vignettes portrayed a simulated physiotherapist taking a history from a patient in order to obtain an understanding of the patient's problem. Therefore items 4, 5 and 6 on the vignette evaluation sheet (*Physiotherapist explores the effect of the problem on the patient's emotional status; Physiotherapist explores patient's expectations of relevance to the physiotherapy consultation; Physiotherapist explores the effect of the problem on patient's social activities)* are compatible with this attribute. The evaluations of 89 physiotherapists (35%) concurred with those of the expert panel in all three items, and across all three vignettes. The highest proportions of physiotherapists per specialty to concur with the expert panel in these 3 items were rotational staff (53.9%; n=14) and rheumatology specialists (50%; n=3). This may be because a higher proportion of physiotherapists in these specialties were aged 26 to 30, the age group which predicted higher odds of recognising effective patient involvement. The numbers of physiotherapists who recognised effective involvement in the individual vignette items were respectively:
Item 4: *Physiotherapist explores the effect of the problem on the patient's emotional status:* 156 physiotherapists (61.4%)
Item 5: *Physiotherapist explores the patient's expectations of relevance to the physiotherapy consultation:* 174 physiotherapists (68.5%)
Item 6: *Physiotherapist explores the effect of the problem on the patient's social activities:* 121 physiotherapists (47.6%)

Fifteen PIE items assessed the physiotherapist's performance against this attribute. No physiotherapist performed all 15 items to an acceptable standard. Table 9.1 illustrates the proportion of consultations and the number of physiotherapists in total, and by specialty, who achieved the minimum standard for each PIE item.

Table 9.1: Number of physiotherapists who performed each item which involved the patient in the exchange of information to an acceptable standard, and the proportion of consultations in which this item occurred.

Item	Number of consultations where this item was applicable	Proportion of consultations using this item to an acceptable standard % (n)	Total number of physiotherapists who performed this item to an acceptable standard & number of physiotherapists per specialty group CR= cardio-respiratory specialty (n=8) MSk= Musculoskeletal specialists (n=8) N= Neurology specialists (n=4)			
Summarises what they heard	75	36 (27)	14	3CR	7MSk	4N
Invites correction	75	33.3 (25)	11	2CR	6MSk	3N
Elicits patient's beliefs about problem	65	44.6 (29)	14	3CR	8MSk	3N
Enquires about patients expectations	70	20.0 (14)	9	3CR	2MSk	4N
Addresses patient's worries/ concerns	73	50.7 (37)	19	8CR	7MSk	4N
Explores effect of problem on recreational activities	75	65.3 (49)	19	7CR	8MSk	4N
Explores effect of problem on relationships and role in family	75	20 (15)	10	3CR	4MSk	3N
Explores effect of problem on employment	71	50.7 (36)	17	5CR	8MSk	4N
Explores effect of problem on emotional well-being	75	16 (12)	6	2CR	2MSk	2N
Explains problem referring to patients beliefs	50	36 (18)	11	0CR	8MSk	3N
Explains problem using patient's-explanatory terms	66	36.4 (24)	13	4CR	6MSk	3N
Explores patient's information needs	67	41.8 (28)	16	7CR	5MSk	4N
Gives clear, concise explanations	74	86.5 (64)	20	8 CR	8MSk	4N
Checks patient's understanding	73	26.0 (19)	14	6CR	5MSk	3N
Gives advice on future health management	70	47.1 (33)	15	6CR	7MSk	2N

The table indicates that all physiotherapists, at some point gave clear explanations.

All bar one addressed the patient's concerns and explored the effect of the problem on the patient's recreational activities in approximately half of all the consultations conducted. The areas of weakest practice occurred in the affective areas of care, such as eliciting the effect of the problem on the patient's emotional well-being, exploring the effect of the problem on the patient's relationships and their role in the family, and enquiring about patients' expectations.

The table also suggests that physiotherapists' strengths and weaknesses might be related to their patient group. Hence, whilst cardio-respiratory physiotherapists' strengths lay in eliciting patients' informational needs, they were poor at relating patients' beliefs to any explanations that were given. Musculoskeletal physiotherapists elicited patients' beliefs, and incorporated these into the explanations that they gave about patients' conditions. Although there were fewer neurological physiotherapists, they excelled at eliciting patients' informational needs and summarising what they understood the patient to have said, but were seldom observed imparting advice on future health management.

9.9. Conclusions

A high proportion of physiotherapists and patients believed that patients should be engaged in decision making, and given responsibility for their treatment by the physiotherapist. They supported the need to reach mutually acceptable decisions, and to be active participants in the exchange of information. However, between 13% and 18% of patients considered that their beliefs regarding what was wrong with them, what they wanted done (e.g. advice, exercises or a physiotherapeutic intervention) and what treatment they wanted (e.g. traction, spinal manipulations etc) were unimportant, and thus expected the physiotherapist to make such decisions on their behalf.

Physiotherapists' knowledge was strongest in relation to recognising when the simulated physiotherapist effectively explored the patient's expectations of relevance to the physiotherapy consultation. However, physiotherapists' weakest vignette item was recognising when the simulated physiotherapist effectively explored the effect of the problem on the patient's social activities. Less than half of participating physiotherapists (n=121; 47.5%) could recognise effective

involvement in this item from the vignettes, although the physiotherapists in the observational study performed well in eliciting the effects of the problem on the patient's social activities. However fewer were observed to enquire about the effects of the problem on the patient's role in the family, their relationships, and particularly in the case of long standing problems, how the problem makes them feel. This may explain why a number of physiotherapists who participated in the vignette study believed the simulated physiotherapist in vignettes 1 and 2 involved the patient to a greater extent than was the belief of the expert panel.

Physiotherapists were weaker at eliciting the patient's emotional status and expectations in practice in the local observational study, but appeared stronger at recognising effective practice in these aspects of care in the regional vignette study. As stated in section 8.9.4, it can be conceived that whilst a physiotherapist might recognise effective practice, it is harder to achieve it practically.

It is not possible to make direct comparisons regarding the attributes in which the twenty local physiotherapists were strongest, or weakest, owing to the different numbers of PIE items which contributed to each attribute. However, overall the physiotherapists overlooked a number of potential opportunities to involve their patients. There is some evidence that physiotherapist's practical strengths and weaknesses in patient involvement may be associated with their area of specialist interest. This may suggest cultural differences in approaches towards the initial consultation, and provide support for the belief that physiotherapists tailor their approaches to suit their method of practice and patient needs.

Chapter 10:
Discussion of research findings and their implications for research and practice.

10.1 Introduction

This thesis has described an investigation into patient involvement in a physiotherapeutic context and reported its findings. An explanation of what constitutes patient involvement in physiotherapy has been proposed. A number of instruments to measure physiotherapists' and patients' attitudes, and physiotherapist's knowledge and skills regarding the involvement of patients in their physiotherapy care have been developed. Using these instruments, this research has:

- explored the extent to which a national sample of NHS physiotherapists (n=735), and a local sample of patients (n=76) believe that patients should be involved in their physiotherapy care;
- investigated the extent to which a regional sample of physiotherapists (n=255) recognise effective involvement in three simulated clinical scenarios,
- examined the extent to which a local sample (i.e. from one UK county) of physiotherapists (n=20) representing three different physiotherapy specialties involved a number of out-patients (n=76) in their initial consultation.

In each case the ability of certain socio-demographic variables to predict physiotherapists' and patient's attitudes, physiotherapists' knowledge and physiotherapist's ability to involve patients adequately in a clinical setting was also investigated.

This chapter provides a discussion of the entire research project and it explores the implications for the physiotherapy profession. It considers the overall strengths and limitations of the research and proposes areas worthy of further research.

10.2 Discussion of findings

10.2.1 Validity of the triumvirate, attitude, knowledge and skills, in relation to patient involvement

No evidence could be found for a relationship between the components of the triumvirate, attitude, knowledge and skills, in the local study of physiotherapists. An inverse relationship was found between regional physiotherapists' attitudes and their ability to recognise effective practice in the vignettes. This was attributed in part to ambiguity in the wording of certain PAPI-A items and the scoring method which excluded respondents who failed to agree with all PAPI-A items.

The triumvirate model originated within education (Gendrop and Eisenhauer, 1996; Hershenson, 2001), and therefore it may apply in the context of the communication training course but lose its validity when applied in a clinical context. As patient involvement is a concept which is not widely taught, ill-defined and under researched in a physiotherapeutic context, physiotherapists' attitudes, knowledge and skills towards the involvement of their patients are likely to have formed and been influenced by numerous, and potentially conflicting, sources (Baron and Byrne, 1997).

It was believed that physiotherapists with strong beliefs regarding the importance of involving their patients might have developed inclusive practices through a process of experiential learning (Silverman, Kurtz and Draper, 1998). However, the detection of such relationships between attitudes, knowledge and skills would require sensitive instruments which measure the three variables at the same level of generality (Katz, 1982). As the total attitude, knowledge and skill scores in this thesis are summed over a number of different items, and the 3 sets of responses were only obtained from the 20 physiotherapists who participated in the observational study, such sensitivity was lost. Hence it is not possible to conclude that the triumvirate is invalid in a physiotherapeutic context with regard to patient involvement. All that can be concluded is that in this study of physiotherapists' baseline attitudes, knowledge and skills, using the tools developed for this thesis, a relationship was not found. Clinically, this suggests that, in order to encourage

physiotherapists to involve their patients to a greater extent, they will require an intervention which will target their attitudes, knowledge and skills. It cannot be assumed that physiotherapists' ability to involve patients in the clinical environment can be enhanced by only influencing their attitudes or knowledge.

10.2.2 Scope for patient involvement in physiotherapy

In chapter 1 it was questioned whether the scope for the involvement of patients in their physiotherapy care was wider than participation in decisions which lead to the formation of a treatment plan (Chartered Society of Physiotherapy, 2000). The defining attributes of patient involvement listed in section 2.7 suggest that any activity which engages the patient's participation and involves sharing power and responsibility constitutes involvement, provided that it satisfies the caveats listed in section 2.9. Hence, activities which are not commonly associated with involvement such as checking the acceptability of a diagnosis with the patient, checking that the physiotherapist's interpretation of what the patient has said is correct and giving the patient responsibility for monitoring progress and progressing treatment, are all examples of patient involvement. Regardless of the scope of patient involvement, the findings in chapter 8 and 9 suggest that physiotherapists frequently overlooked opportunities to involve patients in areas of care which *are* more closely associated with patient involvement such as treatment planning and goal setting.

The introduction of the Mental Capacity Act 2005 (Department for Constitutional Affairs, 2005) places a duty on health professionals to involve patients in decisions and to respect their choice, provided that they have the necessary capacity to understand the implications of their decisions. Hence there is an urgent need to ensure that physiotherapists comply with this Act. Whilst the legal implications of the Act may act as a catalyst in this process, this research indicates that many physiotherapists do not recognise effective patient involvement and therefore may not know how to involve patients in activities such as treatment planning and goal setting.

10.2.3 Perceived Choice

Chapters 8 and 9 demonstrated that physiotherapists do not readily empower the patient, or offer choices. Cardio-respiratory physiotherapists were least likely to offer choices due to the fact that the pulmonary and cardiac rehabilitation programmes were pre-determined. Hence, patients attended the initial consultation to assess their suitability for the programmes, and to negotiate when they wished to attend. However, personal goals were not discussed. For these patients, having realistic personal goals, and a means of measuring progress towards these goals is an important means of ensuring that patients relate the benefits of the exercise classes to changes in their personal life. This should increase their motivation to continue to exercise once they have completed the course (Moore and Kramer, 1996).

It may have been the case that on some occasions, for all physiotherapists, a lack of time would mean that the identification of relevant treatment options and goals may have been deferred to a follow-up consultation. However, the PIE tool allowed for these situations to be anticipated, and in such cases the items would have been marked as not applicable.

A weakness of this study was that it did not explore the factors which led to these physiotherapists involving the patient in the treatment decisions. Hence it is not known whether treatment options existed for some patients but not for others. However it may also be because of a perception that legitimate choices do not exist, owing, in part, to the lack of a strong evidence base to support the use of most physiotherapy techniques (Helders, Engelbert, Van Dernet *et al.*, 1999). However, a large survey (n=321) conducted in England and Australia which explored the reasoning underpinning physiotherapists' choice of treatment modality, suggested that they frequently used methods that they had learnt at undergraduate level, on postgraduate courses, or had found successful with similar patients (Turner and Whitfield, 1999). In addition, junior colleagues may also adopt similar techniques to those used by more senior colleagues in the same department (Richardson, 1999). This might suggest that whilst choices may exist, physiotherapists tend to use tried and tested treatment methods. This is consistent with other physiotherapeutic research which suggested that therapists are not strong at involving the patient in

setting goals and negotiating acceptable forms of treatment (Payton and Nelson, 1996). One possible explanation for the physiotherapist's failure to share control and offer choices may be because they experience difficulties in determining how to empower the patient.

In the past, physiotherapists may have felt compelled to provide an intervention in order to appease the referring consultant, and to prevent delays in the discharge process. Under the Mental Capacity Act it is now more widely accepted that patients who have the necessary capacity can refuse treatment provided that they understand the associated risks. However, it was found in the local observational study that the physiotherapists describe the proposed intervention but all failed to present the option of refusing treatment as a legitimate choice. It is recognised that non attendance is a problem which is endemic to all out-patient clinics (Audit Commission, 2003). A small, low quality survey of physiotherapy out-patients who defaulted on their appointments (Vasey, 1990) suggested that patients encounter problems such as difficulty attending appointments, and that some prefer self-management advice to a course of treatment (Grimmer, Sheppard, Pitt *et al.*, 1999).One may speculate whether, in the absence of choice, patients feel compelled to agree to the physiotherapy intervention, but exercise their right to decline treatment by failing to attend for subsequent appointments. Thus by discussing possible treatment alternatives, both patient and physiotherapist are likely to either devise a treatment programme which suits the patient's work and social circumstances, or agree that physiotherapy might not be an appropriate course of action. In either case, this may reduce unnecessary physiotherapy appointments and possibly reduce non attendance rates which will increase service efficiency and help to reduce waiting lists.

10.2.4 Power

Although 93.9% of physiotherapists agreed with item 11 on the PAPI-A (*I should treat the patient as an equal)*, a number of physiotherapists added comments in their return e-mail to the effect that they believed the patient could never be the physiotherapist's equal. In reality, partnership, in its truest sense, is most often an unattainable ideal (Cahill, 1996) since the physiotherapist has more power than the

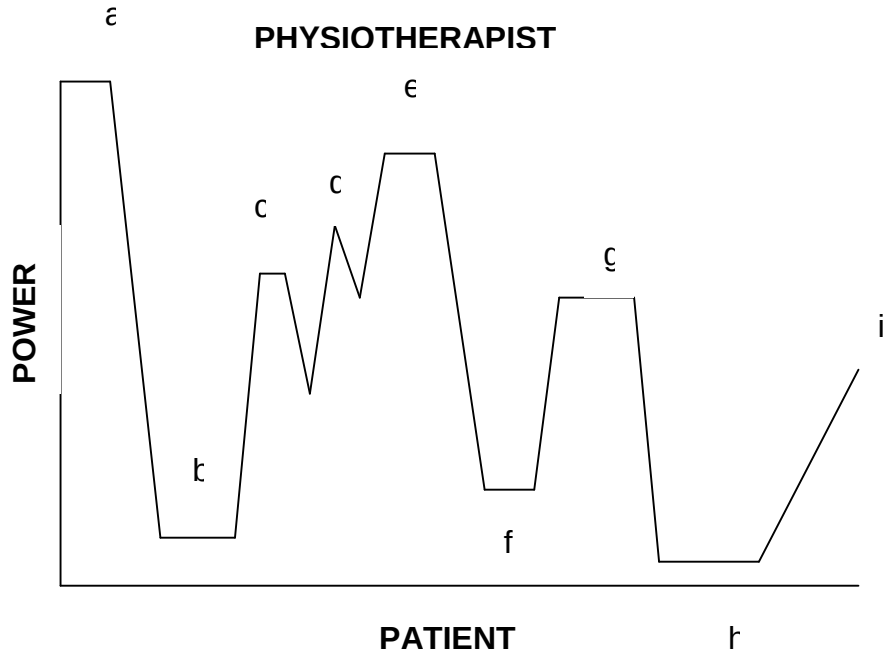
patient by virtue of their extensive training, their ability to request certain investigations and their access to other health professionals, services and to the patient's medical records (Briant and Freshwater, 1998; Britten, Stevenson, Barry *et al.*, 2000). The power difference is particularly apparent if the patient is sick and vulnerable (Guadagnoli and Ward, 1998). Overall, the power difference enables the professional to balance the demands of the patient against the interests of the wider community (Buetow, 1998), and to create boundaries thereby protecting the interests of both the professional and the patient (Briant and Freshwater, 1998). For example, it has been proposed that physiotherapists adopt a detatched, "professional" manner when using techniques which are known to be unpleasant for the patient i.e. airway suction, or require close contact between the physiotherapist and patient during patient examinations and treatment, particularly if the patient is not fully dressed (Ekerholt and Bergland, 2004).

However, the findings in chapter 6 demonstrate that many patients wish to be asked to share their expertise in the behaviour of their condition, confirming a notion proposed by Klaber Moffett (2000). In addition, patients wished to be consulted regarding the treatment that they are to receive, as suggested by Entwistle et al (2002). Whilst the physiotherapist has to ensure that the aims of the consultation are met within the time allowed, and that evidence-based care is offered, there are few reasons why the physiotherapist should not share information and include the patient in decisions which are to improve their quality of life.

A number of decision-making models have been proposed in the literature (Charles, Gafni and Whelan, 1997; Elwyn, Edwards and Kinnersley, 1999; Ford, Schofield and Hope, 2003b). All have been developed to assist doctors to empower their patients. Such models ensure that the necessary information is given to the patient, and that the patient's views and preferences are elicited in order to arrive at a mutually agreed decision (Charles, Gafni and Whelan, 1999).

Figure 10.1 depicts the hypothetical shifts of power between the physiotherapist and the patient during the out-patient physiotherapy consultation.

Figure 10.1: Physiotherapist-patient shifts in power during an initial consultation



a: The physiotherapist initially controls the situation but empowers the patient by eliciting their preferred name, explaining the purpose of the consultation and their desire for the patient to contribute towards the consultation by acknowledging the patient's expertise in the behaviour of their condition.

b: The patient is invited to give a narrative account of their condition, its behaviour, its manifestations on the patient's lifeworld, their beliefs regarding cause, and outcome expectations.

c: The physiotherapist retakes control in order to ensure that they have correctly understood what the patient has said. The patient's participation in the process is maintained by inviting them to correct any errors and provide any additional relevant information.

d: The physiotherapist then elicits further information using limited scope and closed questions. Whilst the physiotherapist controls the topics discussed, the patient controls the responses given, and can thus select what information the physiotherapist receives.

e: The physical examination tends to be under the control of the physiotherapist, although permission should be elicited from the patient to proceed.

f: The physiotherapist empowers the patient by sharing their findings and clinical reasoning leading to a diagnosis. As illustrated by section 4 of the PIE tool in appendix 14, this should include discussions regarding the relationship between the clinical findings and the patient's beliefs regarding aetiology, determination of the acceptability of any explanations given and identification of the patient's informational needs.

g: The physiotherapist takes control as information and advice are imparted, and treatment options and their associated evidence, benefits and risks are explained.

h: The patient's preference for decisional responsibility is elicited and treatment plans, goals,

outcome markers, and follow up arrangements are either negotiated, or chosen either by the patient or, if the patient prefers, the physiotherapist.
i: The physiotherapist exerts power as exercises are taught and treatment modalities are employed.

The model above demonstrates the potential which exists for the patient to share control with the physiotherapist and to contribute towards a number of decisions, assuming that the patient is willing to be an active participant. The physiotherapist requires well honed communication skills to ensure that the patient's views are properly represented regardless of whether they wish to make the decision themselves, share the decision, or defer responsibility.

However, the model is not valid for in-patient consultations, since these patients are often too burdened with managing their symptoms to be expected to take responsibility (Department of Health, 2000b). This is an area which requires further study in order to explore the effect of unwritten codes of behaviour which exist in ward environments, and the unpredictable nature of the in-patient environment (Waterworth and Luker, 1990) on patient's preference and ability to participate in their care.

10.2.5 Patient involvement and biopsychosocial approaches to physiotherapy care

The findings from this thesis illustrate that patients and physiotherapists have different beliefs regarding the important aspects of patient involvement. A high proportion of physiotherapists believed that it was part of their role to elicit psychosocial information relating to the patient's presenting condition. Yet, whereas 60% of local physiotherapists were able to recognise when the simulated physiotherapist explored the patient's emotional problems effectively, only six of the 20 physiotherapists were observed eliciting the psychosocial information in practice. Of these only one elicited the information in all four consultations, whilst as a group these six physiotherapists discussed psychosocial problems to an acceptable standard in 50% of their consultations. This finding suggests that, on the whole, physiotherapists are aware that as part of their role they should elicit both the biomedical and psychosocial manifestations of the problem. However, it seems that fewer physiotherapists recognise when this is performed ineffectively, and fewer still routinely incorporate psychosocial questions into their battery of assessment

questions. One explanation for this deficit might be that, as a high proportion of physiotherapists appeared sensitive to patient's signals and cues (section 9. 6), they detected reluctance on the patient's part to broach such topics (section 6.14) during their presentation of the problem, and thus avoided asking emotionally-leading questions. However, this item was not even attempted in 68% of consultations. Hence, it is more likely that the physiotherapists did not perceive a need to conduct a psychosocial assessment with the patients who participated in the study (Winefield, Murrell, Clifford *et al.*, 1995).

As all of the local physiotherapists believed that they communicated effectively (section 8.9.3), an alternative hypothesis might be that some of those who believed in eliciting the patients emotional concerns (n=19), thought that they had done this effectively. This was the case with two of the therapists who attempted this item unsatisfactorily in every one of their consultations. A further seven did not attempt to elicit any emotional information from any of their patients, yet only one of these physiotherapists claimed to lack confidence in this area.

It appears that physiotherapists need to develop a greater understanding of the importance of eliciting psychosocial information, and need to develop a number of ways in which to broach such subjects without appearing intrusive. One such technique which is recommended in the management of chronic pain is the cognitive-behavioural approach (Harding and De C. Williams, 1995). A biopsychosocial assessment is conducted in which the patient's beliefs regarding cause, activity, and the meaning of pain are explored. Maladaptive beliefs and behaviours are identified, and challenged. The main strength of this approach is that it encourages the patient to develop problem-solving skills, which they then apply in treatment planning, in developing active coping strategies and identifying risk situations for relapse (Soderlund and Lindberg, 2001). At present this approach to the physiotherapeutic management of back and neck pain has not been shown to be any more effective than conventional physiotherapeutic approaches to care (Klaber Moffett, Jackson, Richmond *et al.*, 2005; Klaber Moffett, Jackson, Gardiner *et al.*, 2006). However, it has been proposed that this may be due to insufficient training of participating therapists and lack of experience in using this approach.

10.2.6 Predictor Variables

10.2.6.1 Location of the consultation

Musculoskeletal physiotherapists who were based in a certain small satellite clinic were less likely to involve their patients than their colleagues who worked in the larger departments. The senior physiotherapist in this clinic had not worked in the main hospital physiotherapy department for some time, and at the time of the study, did not participate in any senior in-service training. Hence this member of staff, had not updated his knowledge base in line with musculoskeletal colleagues within the Trust, and whilst personable, used directive biomedical communication techniques. The junior (band 5) physiotherapist who worked in this department at the time of the study also used a directive, biomedical consultation style, unlike the other junior physiotherapists who participated in this study. Hence it is possible that location acted as a proxy for "modelling the master" (Eraut, 1985; Maudsley and Strivens, 2000). This is a situation in which a member of staff either consciously or subconsciously, acquires new forms of behaviour by emulating the actions of another (Bandura, 1977). This belief would be supported by the fact that, at the start of a clinical placement, junior staff are often given the opportunity to observe their supervisor conduct an initial consultation, and it is therefore possible that the junior physiotherapist could adopt the consultation style as part of the technique.

However, as only two members of staff conducted consultations at the clinic in question, this finding may have been spurious. Further research is required to test the hypothesis that physiotherapists not only adopt the techniques that they are taught but also the consultation style that their tutor or supervisor uses. If this hypothesis is supported, it would provide the profession with important evidence to support the need for more undergraduate and postgraduate training in communication skills.

10.2.6.2 Age and Experience

The regression models suggested that physiotherapists' aged 25 or less had poorer attitudes towards patient involvement, whilst those with 21 to 30 years of experience demonstrated stronger attitudes towards patient involvement. Conversely,

physiotherapists aged between 26 and 30 were more likely to recognise effective patient involvement than their older, and presumably more experienced, colleagues. However, physiotherapists in this age group were no more likely to involve their patients in practice than their colleagues.

Whilst experience was measured as years in clinical work, this variable may also reflect the fact that as physiotherapists get older their life experience increases. Life experience may enhance the way that an individual thinks and performs in a given situation (Eraut, 2000). Hence a physiotherapist who has experienced the consequences of not having been adequately involved in decisions regarding their own healthcare needs or those of a friend/family member may be more aware of the importance of involving their patients.

However, whilst the older, more experienced, physiotherapist might believe in the importance of patient involvement, unless they have attended a recent communication skills training course which incorporated strategies to involve patients in their care, they may not necessarily know how to involve their patients effectively. Experienced physiotherapists tend to be the clinical educators, and role models for the next generation of physiotherapists. If they lack sufficient knowledge of patient involvement techniques, then it is clear that the techniques that they encourage junior staff and students to use will not involve the patient fully.

Physiotherapists under the age of 25 were less likely to believe that patients should be involved in their physiotherapy care. If life experience is an important factor in developing positive attitudes towards patient involvement, it can be seen that recent life experiences for this group of staff will have centred on the development and subsequent application of their physiotherapy knowledge and skills. Hopefully this group of physiotherapists will not have had much personal experience of the healthcare system, and may therefore believe in the supremacy of their skills and knowledge over that which the patient might possess. It is understandable therefore that these physiotherapists would be uncomfortable transferring control of decisions to the patient for fear of failing in their duty of care, particularly if the patient is perceived to make a “wrong” decision.

Communication skills are predominantly taught in the first year of an undergraduate physiotherapy training course, before the students commence their clinical placements. Students are assessed on their communication skills whilst on placement by clinical physiotherapists who are not given any specific training in communication skills themselves in order to enable them recognise good practice from bad. Hence the feedback that students receive about their communication performance whilst on placement may not necessarily be of benefit. If, as the findings from the local observational study suggest, the majority of clinical physiotherapists are not involving patients in their care, it follows that students are unlikely to be encouraged to focus on this particular aspect of patient care whilst on placement. Knowledge, deteriorates after acquisition unless it is used clinically (Eraut, 1994). This topic may be revisited later in the undergraduate physiotherapy course, however as a practical profession, the physiotherapy undergraduate curriculum predominantly focuses on the development of technical skills and far less on interpersonal skill development. Conversely, in medicine, formal communication skills training and assessment is being integrated into many of the undergraduate modules in order to cement the links between effective communication and effective medical care (The Hull York Medical School, 2004). It is recognised however that physiotherapy course organisers are constrained by the fact that the physiotherapy undergraduate training course is three years in length compared with the seven years of training that doctors receive.

If the undergraduate training courses are limited in the time that they can devote to teaching communication skills, this would seem to suggest that a need exists for more postgraduate communication skills training for physiotherapists. However the relative dearth of communication training courses advertised in the CSP magazine "Frontline" suggests that whilst most physiotherapists seek to enhance their technical skills there is not the same demand for communication skills training. As suggested in section 5.14.3 and 8.8.8, this may possibly be due to the fact that most physiotherapists believe that they communicate effectively.

10.2.6.3 Clinical Specialisms

Women's health physiotherapists were more likely to agree to all items which related to the patient's involvement overall, whereas mental health specialists were more likely than other specialists to believe that the patient's perspective of their condition should be sought. These findings appear to have validity since the working relationships between these physiotherapists and their patients have to be collaborative due to the complexity and sensitive nature of the conditions that they encounter.

Clinical specialism was not predictive of the physiotherapists' ability to involve their patients practically in the local observational study. It was suggested that this was due to the small numbers of physiotherapists who met the required standard of practice, and, as discussed in section 8.9.2, the influence of extraneous variables such as previous experience. However, some specialty-specific trends were observed in chapter 9, when the physiotherapists' performance in the PIE items was analysed per attribute. This is unsurprising since physiotherapists will alter their consultation behaviours to assist patients with conditions such as Parkinson's disease or chronic respiratory conditions which limit the ease with which the patient can communicate.

There is also evidence that preference for involvement is condition specific, such that patients with rheumatoid arthritis are more likely to want to be involved in decisions regarding medication than diabetics (Garfield, Smith, Francis *et al.*, 2007). It is also evident that different specialties exhibit cultural differences in their approaches towards the patient. This is evident when surgeon's communication styles are compared to those of General Practitioners (Levinson, Roter, Mullooly *et al.*, 1997; Ambady, La Plante, Nguyen *et al.*, 2002), and when community physiotherapists' practice is compared to that of manual therapists (Thornquist, 2001). By applying Bandura's social learning theory (Bandura, 1977), a possible explanation for these differences might be that when physiotherapists attend professional courses they not only adopt the technique, but also the communicative style of the tutor. However, it is also the case that, approaches such as the McKenzie technique for the management of back and neck pain, have traditionally

been prescriptive, and biomedically orientated (Klaber Moffett, Jackson, Gardiner *et al.*, 2006). It is recommended therefore that there is scope within accepted physiotherapeutic techniques and procedures for the patient to become more involved.

10.2.7 Barriers to patient involvement in physiotherapy

The inference throughout this thesis is that, as patient involvement in decision making is recommended by the Department of Health, physiotherapy regulatory bodies, and is desired by a number of patients, physiotherapists should automatically involve their patients in their physiotherapy care. This assumes that the patient is cognitively and physically able to participate, and wishes to do so.

A number of barriers have been proposed to account for difficulties that health professionals experience in sharing decisional control with their patients (Coulter, 1997; Entwistle, Watt, Bugge *et al.*, 2002; Ford, Schofield and Hope, 2002).

Physiotherapists are one of the first professionals to help a patient to mobilise following illness or surgery. Factors such as pain, anxiety, unhelpful beliefs about activity following illness, drowsiness and poor motivation often result in the patient being reluctant to participate in physiotherapeutic activities. In clinical environments such as trauma and orthopaedics or medical elderly wards, where such barriers are commonly encountered staff are more likely to develop directive methods of communicating with the patients in order to elicit the patient's consent to physiotherapeutic treatment. Such practices are usually based on the premise that patients who experience such anxiety may not have the capacity to make an informed decision with regard to their participation in physiotherapy (Department for Constitutional Affairs, 2005). As the risks of not mobilising i.e. deep vein thromboses, pulmonary emboli and chest infections, are greater than the risks associated with the physiotherapeutic activity, physiotherapists will often attempt to encourage a patient to participate on the grounds that it is in their best interests to do so. In addition, it is a common physiotherapeutic observation that, having initially encouraged a patient to participate in physiotherapy, the patient subsequently appreciates the contribution that this has made to their recovery. However if the

patient does have the capacity to consent, the physiotherapist must be aware that a fine line exists between skilful persuasion to allay the fears which have contributed to their apprehension, and coercion which contravenes the recommended methods of gaining consent (Department of Health, 2001a).

Another contentious situation arises if the physiotherapist and patient fail to reach an agreement (attribute f) regarding what constitutes the best course of action (Montgomery and Fahey, 2001). Such tensions are often centred on treatment decisions (Sanders and Skevington, 2004), or a patient's suitability for discharge (Effraimsson, Sandman, Hyden *et al.*, 2004). In some situations, the physiotherapist has to decide whether to override the patient's wishes and recommend the lowest risk option, thus reducing the likelihood of the patient sustaining harm and pursuing future legal action, or to respect the patients wish to return home. The Mental Capacity Act (Department for Constitutional Affairs, 2005) provides assistance in situations where the patient's capacity to make a decision may be impaired. However, the physiotherapist requires more support when they have to balance the preferences of a patient with the capacity to make their own decisions, against the responsibilities and rights of the wider community (Buetow, 1998).

Finally, in order to meet the Department of Health financial and performance targets (Department of Health, 2004a), physiotherapists, and other healthcare staff, are expected to deliver evidence-based, cost-efficient care which, for certain conditions, are according to agreed pathways. A successful outcome is measured as much by the number of patient contacts or length of stay as the change in the patient's health status. Physiotherapists therefore face tensions between their responsibility to adhere to the protocols of care adopted by their organisation, and their moral responsibility to offer the patient choice and control over their rehabilitation. Therefore, the physiotherapist may avoid offering the patient the option of refusing physiotherapy care, in order to avoid responsibility for any possible deviations in the patient's transition along the pathway.

Physiotherapists need to have the opportunity to discuss these concerns, and practice the skills necessary to share decisional control in a secure environment, before they will overcome such barriers (Maguire, Booth, Elliott *et al.*, 1996). Electronic

learning packages have been developed which allow health professionals to explore hypothetical consent issues. Allied health professionals may find benefit from a similar educational package which has been tailored towards the specific situations that they encounter, particularly if it enabled therapists to learn from any cases or complaints which relate to the Mental Capacity Act.

10.3 Implications to Clinical Practice

It appears that physiotherapists are beginning to appreciate the need to address patients psychosocial as well as the biomedical manifestations of their patient's problems. However, as psychosocial issues are not routinely elicited, and have been shown to be determinants of chronic pain (Waddell, 1989; Truchon, 2001), the above findings suggest that additional training is required to enhance physiotherapists' knowledge of how to conduct an effective biopsychosocial assessment, to help therapists to evaluate their practice in this area, and to enable them to improve their confidence by practicing this with simulated patients who can provide feedback on the therapist's performance (Eagles, Calder, Nicoll *et al.*, 2001).

10.3.1 Training

It was suggested in section 10.2.6.2 that as there are limited opportunities to study communication skills in sufficient detail at undergraduate level, and as few physiotherapists involve their patients effectively in their physiotherapy care, a need exists for postgraduate training in patient involvement skills. According to section 10.2.1, such training should also address physiotherapists' attitudes and their knowledge of what constitutes effective patient involvement. If this is the case, then the findings in section 5.12 should be taken into account when developing the training programme. These findings suggested that training in excess of 11 days was predictive of a three point increase in attitude whereas an over-reliance on theoretical lectures led to a less favourable attitude. This latter finding implies that the physiotherapist is more likely to develop a positive attitude towards patient involvement if they actively participate in the training. This is consistent with the techniques used by Fallowfield *et al.* (2001), such as active discussion, role play with simulated patients and video feedback. In section 8.9.2 it was recognised that

clinicians require some form of post training supervision (Heaven, Clegg and Maguire, 2006), or workshop (Razavi, Merckaert, Marchal *et al.*, 2003), to ensure that the new skills are embedded in clinical practice, and to prevent professionals from reverting back to previous, more familiar consultation styles (Maguire, Booth, Elliott *et al.*, 1996).

As the clinical role models, it can be seen that, clinical educators and senior staff should be the first to receive such training. It has been discussed that physiotherapists beliefs about their competence might reduce their motivation to learn (Pendleton, Schofield, Tate *et al.*, 2003). The use of tutor or peer feedback on videotaped consultations has been suggested to be an effective method of attitude moderation (Beckman and Frankel, 1994) as it facilitates recognition of unhelpful attitudes (Kurtz, Silverman and Draper, 1998).
This research has suggested that physiotherapists need to be made aware of what patient involvement is and of the opportunities that exist to involve their patients. As was discussed in section 7.10.3, staff found the vignettes educational, and thus by observing videotapes of their own practice, and those of others, in comparison with actual examples of effective involvement, the physiotherapists would learn to critically appraise their own competence and recognise how effective patient involvement practice contrasts from the approaches that they have traditionally adopted (Benbassat and Baumal, 2001). It would also ensure that when supervising staff in the workplace their evaluations are more accurate.

They should also be made aware of the social learning theory (Bandura, 1977), so that they come to appreciate the importance of acting as a role model, and the need to teach by example, through incorporating discussions and examples of patient involvement during patient demonstrations, and in-service training sessions.

Physiotherapists need to explore their own fears and attitudes towards empowering patients, and fears of being disempowered. Hence, time should be devoted within the training course to discussions regarding the issues raised in section 10.2.7 above. Maguire (1996) advocates small group work. If clinicians from similar specialties work together, they are more likely to be motivated to learn, and to retain information (Graham, 1996) because their discussions and practice would be

tailored towards the clinical environment in which they work (Beckman and Frankel, 1994). It has also been suggested that such skills would transfer into practice more readily as training has been tailored to the clinical environment (Delvaux, Razavi, Marchal *et al.*, 2004). This would provide opportunities for staff from similar specialties to evaluate cultural practices and approaches to care, and identify how to empower their patients more effectively.

10.3.2 Mentors

As stated in section 8.9.2, clinical skills do not readily transfer back into the workplace following training. One reason for this is that skill acquisition requires conscious reflection on performance, in order to become competent (Pendleton, Schofield, Tate *et al.*, 2003). The performance of any skill is initially awkward and thus it is easy for the individual to give up and revert back to what were previously "comfortable" practices. With the support of a mentor, clinicians may be helped to overcome difficulties until the new skills are assimilated. Mentors are also ideally placed to provide regular updates as skills deteriorate (Maguire, Booth, Elliott *et al.*, 1996). According to Bandura's theory, mentors are more likely to have influence if they are modelling behaviour which the physiotherapist can relate to (Bandura, 1977). Hence a range of mentors who represent different specialties can help colleagues to tailor patient involvement to suit the clinical environment and caseloads that they encounter.

10.4 Strengths of this thesis

This research is the first of its kind to investigate NHS physiotherapists' attitudes, and knowledge of patient involvement, and to combine this information with an in-depth observation of actual clinical practice. It is also the first study which compared patients' attitudes towards patient involvement with those of NHS physiotherapists. As 735 UK physiotherapists responded to the attitude survey the results may be fairly representative of the physiotherapy population. Two hundred and fifty four physiotherapists were recruited into the regional study of physiotherapists' knowledge of patient involvement. Although respondents were younger and less experienced than the physiotherapy population of 2003, as this study was conducted in 2005, it may reflect a change in the physiotherapy

population demographics. Hence, the findings in chapter 7 may also be representative of NHS physiotherapists' ability to recognise effective patient involvement.

The observational study in chapter 8 is the first study to explore the impact of clinical specialty on physiotherapists' ability to involve their patients. The PIE tool provides a means of identifying physiotherapists' specific strengths and weaknesses and assesses how well the physiotherapist performed each of the constituent tasks.

The results of this thesis largely depend upon the validity of the attributes which were selected to define patient involvement in this context. As the attributes selected in this thesis are similar to those which define patient involvement in medicine (Elwyn, Edwards, Kinnersley *et al.*, 2000) and in nursing (Cahill, 1996), this suggests that the concept definition has some validity.

The instruments developed for the purpose of this research were subjected to the scrutiny of a panel of experts who agreed that each instrument had content and face validity. The instruments had acceptable test-retest reliability and yielded useful data when piloted. Where possible, principal components factor analyses produced meaningful components which were replicated when the main data sets were reanalysed. The PAPI-A and B and their sub-scales satisfied the rules for homogeneity and internal consistency, although they were limited in their discrimination ability, and hence suitable only for measuring baseline attitudes rather than changes in attitude. As the proportions of physiotherapists who agreed with the PAPI-A and its sub-scales were comparable across all three studies, this suggests that the instrument was reliable.

The main strength of these instruments is that they were designed specially to suit the physiotherapeutic context. Therefore it is hoped that they can be refined further and validated for use in further studies of patient involvement in physiotherapy.

10.5 Weaknesses of this thesis

The concept analysis was limited by a lack of published studies which had explored clinical physiotherapists and patients' understanding of what constitutes patient

involvement in physiotherapy. The literature was also confounded by the inter-relationship between the concepts of patient centredness and patient involvement. As a concept is an abstract mental classification (Allen, 2000), or linguistic representation of phenomena (Morse, 1995) its analysis requires interpretation of the spoken or written word, and therefore may change, as knowledge develops (Rodgers and Knafl, 1993). However, as knowledge in the public domain is available for critique (Eraut, 1994), it is hoped that following publication, this definition will be challenged, and either refined or validated as research interest in patient involvement in physiotherapy develops.

In section 5.14.1 it was suggested that item 16 in the PAPI-A might have been misleading. As physiotherapists were expected to agree with all PAPI-A items to be considered as having a positive attitude towards patient involvement, this question may have produced some erroneous results. Although cognitive interviewing was used to identify such ambiguities, in this case the problems with item 16 were not identified. Hence it is recommended that this item be eliminated from the instrument if it is to be used in future research.

In order to obtain the required sample size in the national survey of physiotherapists' attitudes, the use of the interactive CSP website as a recruitment method was a weakness, as this was a self selected sample who scored on average 4 points more than other respondents.

A limitation of the local observational study methodology, and of the PIE tool, is that both failed to consider the patient's contribution to the consultation (Britten, 2003), and the influence that might exert on the physiotherapist's behaviour (Street, Krupat, Bell *et al.*, 2003). This might explain the variance in physiotherapists' use of PIE items across consultations.

The fitted regression models revealed in this thesis explained at most 14.3% of variance in the dependent variables. This suggests that patient involvement is multivariate, and that this thesis had only limited success in identifying explanatory factors. However, any study of human interactions is likely to have poor predictability owing to the fact that people differ in the meanings that they associate with words and gestures dependent upon their life experiences, expectations, and

peer influences which cannot be isolated and quantified. Hence, the findings from these fitted models should be used with caution.

In order to compare the patient involvement practices of physiotherapists in the local observational study, it was necessary to ensure uniformity by limiting the study to initial out-patient consultations conducted on NHS Trust property. Hence the findings from this study relate to a particular consultation and clinical setting. Hence the extent to which in-patient physiotherapists and those who treat out-patients in their own homes involve their patients remain relatively unexplored. These consultations are worthy of further study as will be discussed in the following section.

10.6 Recommendations for further research

This research has generated further questions regarding the involvement of patients in their physiotherapy care. As a result, the following areas of further study are recommended:

- This thesis has identified that, whilst physiotherapists' and patient's conceptualisations of involvement in physiotherapy differ, there is little available research which has explored how these two groups of people define patient involvement, and which behaviours they associate with involvement. This information would enable the concept analysis to be validated or challenged. Morse (1995) suggests the use of focus groups as a means of validating exemplars in the concept analysis process.

- In section 10.3.3 it was acknowledged that physiotherapists who treat in-patients encounter more barriers to the involvement of patients, than their out-patient colleagues. This is because such patients are sick, and may be anxious or in pain. As a result of the hospital routines and environment patients can feel vulnerable, and anxious. A mixed methods study which combines an observational analysis of patient involvement practice with a qualitative study of patients and physiotherapist's views would enable the involvement of in-patients to be explored. Semi-structured interviews could be conducted after the patient and physiotherapist have watched their videotaped consultation in

order to explore which aspects of the consultation both parties felt that the patients' involvement could have been sought to a greater, or lesser degree. This methodology would also be useful to develop an understanding of how physiotherapists and patients perceive involvement, and to gain insight into the barriers that professionals perceive in the involvement of patients in physiotherapy consultations. The validity of the concept definition for this group of consultations can thus be tested.

It has been proposed that professionals find a method to assess patient's level of readiness to participate (Guadagnoli and Ward, 1998). Patient information from the qualitative study proposed above might aid in the recognition of patients' levels of readiness to participate. It might also indicate what physiotherapists and patients consider to be legitimate choices.

- One of the main limitations of the observational study was that it did not explore the degree to which the patient's behaviour facilitated the physiotherapist to use similar behaviours. This knowledge would possibly explain why physiotherapists employed different involvement skills in each consultation that they conducted. In order to determine the influence of patients' participation techniques on physiotherapists' consultation behaviours it may be necessary to use molecular communication tools such as conversational analysis (Guadagnoli and Ward, 1998). In addition, this depth of information would also indicate which of the physiotherapist's behaviours facilitate the patient's involvement and which lead the patient to disengage from the consultation process.

- Another limitation of the observational study was its focus on a single consultation. Few studies of patient involvement have explored the extent to which this might change as the professional-patient relationship develops (Sacks and Jefferson, 1995). Hence a longitudinal study of patient involvement over time would be informative (Montgomery and Fahey, 2001).

- This thesis has recommended a multi-faceted approach, incorporating training, and mentorship to enhance therapist's patient involvement knowledge, skills and self-efficacy in this subject. This approach requires rigorous evaluation to

ensure that it achieves its aims, and to provide justification for what may be a costly intervention. A randomised controlled trial is advocated to compare the effects of the training programme with a control group, and to explore the additional benefits of mentor support, compared to a group who receive training only. The effects of these interventions on patient outcomes such as perceived control, number of treatment sessions, attendance, and outcome should be investigated.

- As discussed in section 3.5.6, training the healthcare professional in enhanced communication techniques has been suggested to have a limited impact upon clinical practice. In addition, the cost effectiveness of training a health professional is questionable if the effects decline over time as has been suggested. However, if the patient's participation behaviour and physiotherapists' behaviour are interdependent (Street, Krupat, Bell *et al.*, 2003), it would be of interest to compare the effects of a patient-targeted intervention such as a question prompt sheet, with a physiotherapist-targeted intervention to increase their use partnership building techniques. The effectiveness of these interventions would be determined by means of a randomised controlled trial in which the two arms above would be compared against a third control arm which was physiotherapy treatment as usual. The primary outcome measures would be accuracy of recall, coping and quality of life. The cost-effectiveness of the interventions would also be an important consideration in determining which of the interventions has greatest clinical utility.

10.7 Conclusions

The trigger for conducting this thesis was the perception that, whilst physiotherapists believe they communicate effectively, in practice, the patient's involvement is not optimally sought. Broadly speaking this perception was confirmed. This research suggests that most physiotherapists have a positive attitude towards patient involvement; fewer seem able to recognise it in practice and a much smaller proportion are able to implement it to an acceptable standard in their clinical practice.

In attempting to determine the accuracy of that perception, the thesis has explored the concept of patient involvement in a physiotherapeutic context. It has proposed that the scope for patients to be involved in their physiotherapy care is much wider than previously considered. Whilst physiotherapists may be regarded as more powerful because of their training, experience and status within the healthcare community, a model has been proposed to demonstrate how control could be shared with the patient within an initial out-patient consultation. This thesis also described the development and testing of four research instruments which enabled physiotherapists' attitudes, knowledge and skills and patients' attitudes towards patient involvement to be investigated.

The findings of this thesis showed that similar proportions of physiotherapists and patients believed that patients should be involved in their physiotherapy care. However, patients appear to conceptualise patient involvement in a slightly different way to physiotherapists. These findings were obtained from a national survey which explored NHS physiotherapists' attitudes towards patient involvement, and from a local survey of patient's attitudes towards involvement in their physiotherapy care. Most physiotherapists believed that they communicate effectively with their patients, although the local observational study suggested that in some cases this perception may not be accurate. The strength of physiotherapists attitudes were predicted by a combination of gender, age, experience, specialist area, receipt of additional communication training and method of recruitment. Patients' attitudes were predicted by their marital status.

Of a regional sample of NHS physiotherapists, 57% adequately recognised effective patient involvement in three video vignettes of a simulated physiotherapy consultation. An inverse relationship was found between physiotherapist's attitude towards patient involvement and their ability to recognise effective involvement practice from the vignettes. Physiotherapists' in the 26 to 30 age range were more likely to recognise effective patient involvement than their colleagues.

Thirty percent of NHS physiotherapists who collaborated in a local observational study (n=20), were considered to have made a reasonable attempt to involve their patients. This was defined as having performed at least half of the necessary skills to an acceptable standard. Physiotherapists overlooked many opportunities to

involve patients in their physiotherapy care. Whilst physiotherapists strengths lay in forming egalitarian relationships with their patients, they were less likely to explore the patient's psychosocial needs, offer treatment choices where they exist, invite the patient to participate by asking questions or by selecting an appropriate progress marker.

It was anticipated, in section 1.2a that this research might indicate whether NHS physiotherapists could benefit from additional training in patient involvement. As a result of the findings in this thesis, it is recommended that physiotherapists should be given the opportunity to receive comprehensive patient involvement training to include biopsychosocial assessment methods, and the use of simulated patients. Vignette evaluation methods should also be included so that therapists develop competence in assessing students and their peers. As evidence suggests that staff require support to maintain these skills in the clinical environment and to tailor them to suit their methods of practice and patient needs, a system of mentors from different specialist areas is advocated to provide support, and guidance to established and rotational staff in the workplace. It is recommended that such a programme be rigorously conducted and evaluated for effectiveness on a pilot basis before it can be rolled out nationally.

It is hoped that this thesis will encourage further debate amongst physiotherapists and greater awareness of the need for patient involvement in physiotherapy.

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Appendix 1: Questions 3 - 5 of the pre-consultation

"Patient preferences for patient centredness questionnaire" (Little ,Everitt ,Williamson *et al.*, 2001)

BEFORE THE CONSULTATION QUESTIONNAIRE:
WHY HAVE YOU COME TO SEE THE DOCTOR TODAY AND WHAT DID YOU EXPECT?

This questionnaire is confidential: your doctor will not see it so please answer the questions honestly. Please do not take too long over each question: your immediate thoughts are probably more accurate than long thought out answers.
If you came because your child has a problem, please fill out the questionnaire for your child

Q1
Why did you come today?
(Cross as many boxes as apply)

- I have a new problem I want to see the doctor with ☑
- I have a long-standing problem ☐
- The doctor asked me to attend ☐

Q2
Do you normally see this doctor when you come to the surgery? Yes ☐ No ☑

Q3
Please put a cross in the box to show how much you agree with these statements:

	very strongly agree	strongly agree	agree	neutral	disagree	strongly disagree	v. strongly disagree
I want the doctor to deal with **my worries** about my problem	☐	☐	☐	☑	☐	☐	☐
I want the doctor to listen to **everything I have to say** about my problem	☐	☐	☑	☐	☐	☐	☐
I want the doctor to be interested in **what I think the problem is**	☐	☐	☐	☐	☑	☐	☐
I want the doctor to be interested in how it **affects my life**	☐	☐	☑	☐	☐	☐	☐
How it affects my life is just my affair and **nothing** to do with the doctor	☐	☐	☐	☐	☑	☐	☐
I want the doctor to be interested in **what I want to know**	☐	☐	☑	☐	☐	☐	☐

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Q4

	very strongly agree	strongly agree	agree	neutral	disagree	strongly disagree	v.strongly disagree
I want the doctor to examine me fully	☐	☐	☑	☐	☐	☐	☐
I want the doctor to understand the **main reason** for coming	☐	☐	☑	☐	☐	☐	☐
I want the doctor to treat me as an equal	☐	☐	☐	☑	☐	☐	☐
I want the doctor to be friendly and approachable	☐	☑	☐	☐	☐	☐	☐
I want to feel really understood by the doctor	☐	☑	☐	☐	☐	☐	☐
I want the doctor to find out how serious my problem is	☐	☑	☐	☐	☐	☐	☐
I want the doctor to explain clearly **what the problem is**	☐	☑	☐	☐	☐	☐	☐
I want the doctor and I to discuss and agree **together** what the **problem** is	☐	☐	☐	☑	☐	☐	☐
I want the doctor to explain clearly **what should be done**	☐	☑	☐	☐	☐	☐	☐
I want the doctor to be interested in **what I want done**	☐	☐	☐	☐	☑	☐	☐
I want the doctor to be **interested** in what **treatment** I want	☐	☐	☐	☐	☑	☐	☐
I want the doctor **and I** to discuss and agree **together** on the **treatment**	☐	☐	☐	☐	☑	☐	☐
	very strongly agree	strongly agree	agree	neutral	disagree	strongly disagree	v.strongly disagree

	very strongly agree	strongly agree	agree	neutral	disagree	strongly disagree	v.strongly disagree
The doctor **alone** should decide on the treatment without discussion	☐	☐	☑	☐	☐	☐	☐
I want a prescription	☐	☐	☐	☑	☐	☐	☐
I want advice on how to reduce the risk of future illness	☐	☐	☑	☐	☐	☐	☐
I want advice on how to stay healthy in the future	☐	☐	☑	☐	☐	☐	☐
My future health is my business - nothing to do with the doctor	☐	☐	☐	☐	☑	☐	☐
I want the doctor to understand my emotional needs	☐	☐	☑	☐	☐	☐	☐
I want advice on what I can do	☐	☐	☑	☐	☐	☐	☐
I want the doctor's treatment to be worth the trouble it will take	☐	☐	☑	☐	☐	☐	☐
	very strongly agree	strongly agree	agree	neutral	disagree	strongly disagree	v.strongly disagree

Hull and East Yorkshire Hospitals NHS
NHS Trust

Appendix Two

Institute of Rehabilitation
215 Anlaby Road,
Hull,
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Tel: (01482) 675640

THE UNIVERSITY OF HULL

An investigation of the factors which influence patient interaction in the physiotherapeutic assessment/consultation.

In recent years there has been growing interest in the way that healthcare professionals communicate with their patients. We know that effective communication between healthcare provider and patient results in fewer misunderstandings and reduces patient's anxiety. As a result, patients are more likely to follow any resultant exercise programme or recommendations. This is of particular relevance to physiotherapists, since our recommendations often require the patient to make changes in behaviour or lifestyle e.g. to ensure that they avoid sitting in chairs below a certain height or to take up a form of exercise on a regular basis.
I would like to invite you to take part in the above mentioned research study. The study is being conducted as part of a PhD in rehabilitation within the Institute of Rehabilitation at the University of Hull.

The aim of the study is to

- explore physiotherapists opinions of the importance of certain aspects of the initial assessment/consultation.
- see how much agreement exists between physiotherapists and patients ratings of the most important aspects of the consultation.

I am inviting a sample of physiotherapists who are currently working in UK NHS Trusts to complete the following questionnaire. The questionnaire itself is anonymous, and your e-mail address will be deleted once the returned questionnaire has been downloaded. The questionnaire will take approximately 20 minutes to complete.

N.B. There are no right or wrong answers to these questions. I am **not** wanting to know what you believe the Government's perspective is in each case, what I want to find out are **your** opinions of each statement based on **your** clinical experiences.

PLEASE RETURN THE QUESTIONNAIRE TO
a.j.green@hull.ac.uk

You are under no obligation to participate in this study. If you do not wish to participate, please delete this message and you will not receive any further correspondence regarding this study. I am very grateful to you for your assistance.

Yours faithfully
Angela Green
Research and Development Therapist

In Confidence

Physiotherapist Attitudes towards Patient Involvement Survey

PAPI-A Questionnaire

Please read all the instructions in each section carefully before completing the questionnaire.

Please answer <u>all</u> the questions. Although it may seem that some questions are asked more than once, it is still important that you answer every one.

In each section it is your first response that I am interested in, so please do not think about your answer for too long and do not go back and change answers.

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The Institute of Rehabilitation
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NHS Trust

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Section 1:

Please indicate your opinion of the statements below by placing a mark in the most appropriate box on each line.

No	Statement	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree
1	I believe that I communicate effectively with my patients.							
2	Effective communication has as much of an impact on patients' health as my intervention.							
3	I feel comfortable asking patients questions of a psychosocial nature.							
4	I should deal with the patient's worries about their problem.							
5	I should listen to everything that the patient has to say about their problem.							
6	I should be interested in what the patient thinks the problem is.							
7	I should be interested in how the problem affects my patient's life.							
8	How the problem affects the patient's life is just their affair and has nothing to do with me.							

No	Statement	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree
9	I should be interested in what the patient wants to know.							
10	I should understand the patient's main reason for coming to physiotherapy.							
11	I should treat the patient as an equal.							
12	I should be friendly and approachable.							
13	I should really understand the patient.							
14	I should explain clearly what the patient's problem is.							
15	The patient and I should discuss and agree what the problem is together.							
16	I should explain clearly what should be done.							
17	I should be interested in what the patient wants done.							
18	I should be interested in what treatment the patient wants.							

No	Statement	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree
19	The patient and I should discuss and agree the treatment together							
20	I alone should decide on the treatment without discussion.							
21	Part of my role is to give the patient advice on how to stay healthy in the future.							
22	The patient's future health is their business and has nothing to do with me.							
23	I should understand my patient's emotional needs.							
24	I should give the patient advice on what they can do.							

Section 2:

In your view, what are ***the most, and least, important*** aspects of a patient-centred physiotherapy consultation?
Please place the following numbers in the boxes marked "rank" to indicate which **one** of the following items you think is:

- **THE MOST IMPORTANT** ….indicate with the number **1**
- **SECOND BEST** .... indicate with the number **2**
- **THIRD BEST** ….indicate with the number **3**
- **THE LEAST IMPORTANT** ….indicate with the number **10**

For example if you believe that item A "to be addressed by the name of your choice" is the **most important**, and item C "to be able to express how your problem has affected your work, family and social life", is the **least important**, you would write 1 in the box beside item A and 10 in the box beside item C.

PLEASE DO NOT USE EACH NUMBER MORE THAN ONCE.

ITEM	DESCRIPTION	RANK
A	To be addressed by the name of your choice.	
B	To be given the opportunity to describe your problem in your own words	
C	To be able to express how your problem has affected your work, family and social life	
D	To be able to discuss what is on your mind e.g. worries about your problem etc	
E	To be given the opportunity to be involved in decisions about your physiotherapy treatment	
F	To be given a Physiotherapy programme which has been designed to suit your lifestyle and home circumstances.	
G	To feel involved in setting treatment goals so that they are based on my main problems.	
H	To know that the physiotherapist will listen to me with interest and without interrupting me.	
I	To be given the right amount of information about your problem in a way that is easy to understand.	
J	To be treated as an equal.	

Section 3:

In order to help me to interpret the data I would be grateful if you could answer the following questions.

Please place a mark in the relevant box.

1. What is your gender?

MALE	
FEMALE	

2. Please indicate to which age bracket you belong:

25 years or less	
26 – 30 years	
31 – 40 years	
41 – 50 years	
51 – 60 years	
61 years and above	

3. Please indicate how many years of experience you have as a physiotherapist. (If you have had a year or more off for a career break, or experienced prolonged sick leave, please deduct this from the total).

0 - 5 years	
6 – 10 years	
11 – 20 years	
21 – 30 years	
31 – 40 years	
41 years and above	

4. Please indicate the clinical specialty to which you devote most of your working hours:

Amputee Rehabilitation		Musculoskeletal conditions		Stroke	
Burns and Plastics		Neurology/Neurosurgery		Surgery	
Cardiology		Oncology		Womens Health	
Children's Physiotherapy		Orthopaedics		Other	
Elderly		Palliative Care			
Health Promotion		Renal Care			
Learning difficulties		Intensive care/Respiratory Care			
Medical specialties		Rheumatology			
Mental Health		Spinal Injuries			

5. Which patient group occupies the majority of your time?

Inpatients	
Outpatients	
Time evenly divided between both groups	
Not applicable	

6. Do you feel that your Physiotherapy training prepared you adequately to communicate effectively with patients?

YES	
NO	

7. Have you undertaken any specific communication skills training courses since you qualified?

YES	
NO	

8. If the answer to question 7 is YES, please state how many hours of additional communication skills training you have undertaken *in total*.

<1day	
1 - 2 days	
3 – 5 days	
6 – 10 days	
11 – 15 days	
16 – 20 days	
21 – 30 days	
1 - 3 months	
> 3 months	

9. In which forms was this training delivered?

Please mark all relevant boxes.

Theoretical lecture	
Re-enactment of a mock consultation by tutor	
Demonstration of actual consultation using video /audio tape	
Role play/ Simulated consultation by course participants.	
Feedback from tutor following submission of an audiotape/video tape of students performance	
Peer feedback of an audio/videotape of students performance	
Peer supervision in the workplace	
Reflective diary	
Other	

10. Do you feel that your clinical practice has changed significantly as a result of your postgraduate communication skills training?

YES	
NO	
DON'T KNOW	

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE
If you have any comments on the questionnaire or the study please enter them below.

Appendix Three

In Confidence

Patient Attitudes towards Patient Involvement Survey

PAPI-B Questionnaire

I.D. Number ☐☐ - ☐☐☐☐

Date ☐☐/☐☐/☐☐

Please read all the instructions in each section carefully before completing the questionnaire.

Please answer <u>all</u> the questions. Although it may seem that some questions are asked more than once, it is still important that you answer every one.

It is your first response that we are interested in, so please do not think about your answer for too long and do not go back and change an answer.

Please complete the form using blue or black ink.

THE UNIVERSITY OF HULL

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Willerby, Hull .East Yorkshire.
HU10 6DT

Section 1:

Please indicate your opinion of the statements below by placing a cross in the most appropriate box on each line.

No	Statement	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree
1	Effective communication has as much of an impact on my health as the physiotherapy treatment.							
2	I feel comfortable answering questions of an emotional or social nature.							
3	I want the physiotherapist to deal with my worries about my problem.							
4	I want the physiotherapist to listen to everything I have to say about my problem.							
5	I want the physiotherapist to be interested in what I think the problem is.							
6	I want the physiotherapist to be interested in how it affects my life.							
7	How it affects my life is just my affair and has nothing to do with the physiotherapist.							

No	Statement	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree
8	I want the physiotherapist to be interested in what I want to know.							
9	I want the physiotherapist to understand my main reason for coming to physiotherapy.							
10	I want the physiotherapist to treat me as an equal.							
11	I want the physiotherapist to be friendly and approachable.							
12	I want to feel really understood by the physiotherapist.							
13	I want the physiotherapist to explain clearly what the problem is.							
14	I want the physiotherapist and I to discuss and agree what the problem is together.							
15	I want the physiotherapist to explain clearly what should be done.							

No	Statement	Very Strongly Disagree	Strongly Disagree	Disagree	Neither agree nor disagree	Agree	Strongly Agree	Very Strongly Agree
16	I want the physiotherapist to be interested in what I want done.							
17	I want the physiotherapist to be interested in what treatment I want.							
18	I want the physiotherapist and I to discuss and agree the treatment together.							
19	The physiotherapist alone should decide on the treatment without discussion.							
20	Part of the physiotherapist's role is to give patients advice on how to stay healthy in the future.							
21	My future health is my business and has nothing to do with the physiotherapist.							
22	I want the physiotherapist to understand my emotional needs.							
23	I want advice on what I can do.							

Section 2:

Instructions: Each item below is a belief statement about your medical condition with which you may agree or disagree. Beside each statement is a scale which ranges from strongly disagree (1) to strongly agree (6). For each item we would like you to circle the number that represents the extent to which you agree or disagree with that statement. The more you agree with a statement, the higher will be the number you circle. The more you disagree with a statement, the lower will be the number you circle. Please make sure that you answer **EVERY ITEM** and that you circle **ONLY ONE** number per item. This is a measure of your personal beliefs; obviously, there are no right or wrong answers.

1=STRONGLY DISAGREE **(SD)** 2=MODERATELY DISAGREE **(MD)** 3=SLIGHTLY DISAGREE **(D)**	4=SLIGHTLY AGREE **(A)** 5=MODERATELY AGREE **(MA)** 6=STRONGLY AGREE **(SA)**

		SD	MD	D	A	MA	SA
1	If I get sick, it is my own behaviour which determines how soon I get well again.	1	2	3	4	5	6
2	No matter what I do, if I am going to get sick, I will get sick.	1	2	3	4	5	6
3	Having regular contact with my physician is the best way for me to avoid illness.	1	2	3	4	5	6
4	Most things that affect my health happen to me by accident.	1	2	3	4	5	6
5	Whenever I don't feel well, I should consult a medically trained professional.	1	2	3	4	5	6
6	I am in control of my health.	1	2	3	4	5	6
7	My family has a lot to do with my becoming sick or staying healthy.	1	2	3	4	5	6
8	When I get sick, I am to blame.	1	2	3	4	5	6
9	Luck plays a big part in determining how soon I will recover from an illness.	1	2	3	4	5	6
10	Health professionals control my health.	1	2	3	4	5	6

1=STRONGLY DISAGREE **(SD)** 2=MODERATELY DISAGREE **(MD)** 3=SLIGHTLY DISAGREE **(D)**		4=SLIGHTLY AGREE **(A)** 5=MODERATELY AGREE **(MA)** 6=STRONGLY AGREE **(SA)**					
		SD	**MD**	**D**	**A**	**MA**	**SA**
11	My good health is largely a matter of good fortune.	1	2	3	4	5	6
12	The main thing which affects my health is what I myself do.	1	2	3	4	5	6
13	If I take care of myself, I can avoid illness.	1	2	3	4	5	6
14	Whenever I recover from an illness, it's usually because other people (for example, doctors, nurses, family, friends) have been taking good care of me.	1	2	3	4	5	6
15	No matter what I do, I 'm likely to get sick.	1	2	3	4	5	6
16	If it's meant to be, I will stay healthy.	1	2	3	4	5	6
17	If I take the right actions, I can stay healthy.	1	2	3	4	5	6
18	Regarding my health, I can only do what my doctor tells me to do.	1	2	3	4	5	6

Section 3:

The following questionnaire has been designed to assess how you have been feeling in the past 7 days.
Please read each item and place a tick in the box opposite the reply which comes closest to how you have been feeling in the past week.
Give an immediate response to the statements as this will probably be more accurate than if you think too long about your answers.

1. I feel tense or 'wound up':	
Most of the time	
A lot of the time	
From time to time, occasionally	
Not at all	

2. I still enjoy the things I used to enjoy:	
Definitely as much	
Not quite so much	
Only a little	
Hardly at all	

3. I get a sort of frightened feeling as if something awful is about to happen:	
Very definitely and quite badly	
Yes, but not too badly	
A little, but it doesn't worry me	
Not at all	

4. I can laugh and see the funny side of things:	
As much as I always could	
Not quite so much now	
Definitely not so much now	
Not at all	

5. Worrying thoughts go through my mind:	
A great deal of the time	
A lot of the time	
From time to time, but not too often	
Only occasionally	

6. I feel cheerful:	
Not at all	
Not often	
Sometimes	
Most of the time	

7. I can sit at ease and feel relaxed:	
Definitely	
Usually	
Not Often	
Not at all	

8. I feel as if I am slowed down:	
Nearly all the time	
Very often	
Sometimes	
Not at all	

9. I get a sort of frightened feeling like 'butterflies' in the stomach:	
Not at all	
Occasionally	
Quite Often	
Very Often	

10. I have lost interest in my appearance:	
Definitely	
I don't take as much care as I should	
I may not take quite as much care	
I take just as much care as ever	

11. I feel restless as I have to be on the move:	
Very much indeed	
Quite a lot	
Not very much	
Not at all	

12. I look forward with enjoyment to things:	
As much as I ever did	
Rather less than I used to	
Definitely less than I used to	
Hardly at all	

13. I get sudden feelings of panic:	
Very often indeed	
Quite often	
Not very often	
Not at all	

14. I can enjoy a good book or radio or TV program:	
Often	
Sometimes	
Not often	
Very seldom	

Section 4:

Please place a cross in the relevant boxes in answer to the following questions.

As a result of your visit to the physiotherapist today, do you feel you are …

	MUCH BETTER	**BETTER**	**SAME OR LESS**	**NOT APPLICABLE**
able to cope with life.				
able to understand your problem.				
able to cope with your problem.				
able to keep yourself healthy.				
	MUCH MORE	**MORE**	**SAME OR LESS**	**NOT APPLICABLE**
confident about your health.				
able to help yourself.				

Section 5:

In your view, what are ***the most, and least, important*** aspects of a patient-centred physiotherapy consultation?

Please place the following numbers in the boxes marked “rank” to indicate which **one** of the following items you think is:

- **THE MOST IMPORTANT** ….indicate with the number **1**
- **SECOND BEST** .... indicate with the number **2**
- **THIRD BEST** ….indicate with the number **3**
- **THE LEAST IMPORTANT** ….indicate with the number **10**

For example if you believe that item A “to be addressed by the name of your choice” is the **most important**, and item C “to be able to express how your problem has affected your work, family and social life”, is the **least important**, you would write 1 in the box beside item A and 10 in the box beside item C.

PLEASE DO NOT USE EACH NUMBER MORE THAN ONCE.

ITEM	DESCRIPTION	RANK
A	To be addressed by the name of your choice.	
B	To be given the opportunity to describe your problem in your own words	
C	To be able to express how your problem has affected your work, family and social life	
D	To be able to discuss what is on your mind e.g. worries about your problem etc	
E	To be given the opportunity to be involved in decisions about your physiotherapy treatment	
F	To be given a Physiotherapy programme which has been designed to suit your lifestyle and home circumstances.	
G	To feel involved in setting treatment goals so that they are based on my main problems.	
H	To know that the physiotherapist will listen to me with interest and without interrupting me.	
I	To be given the right amount of information about your problem in a way that is easy to understand.	
J	To be treated as an equal.	

Section 6:

Lastly it would be of great help us to if you could complete these final questions. The information that you provide here will help us to understand whether your views are unique or are shared by other similar patients. Please place a cross in the relevant boxes:

1. How long have you had the main problem for which you have been referred to physiotherapy?

It is a relatively new problem ☐

It is a long-standing problem ☐

2. Have you had physiotherapy before for this problem?

Yes ☐ No ☐

3. Have you had physiotherapy before for any other problem?

Yes ☐ No ☐

4. What is your gender?

MALE	
FEMALE	

5. Please indicate to which age bracket you belong:

24 years or less	
25 – 29 years	
30 – 39 years	
40 – 49 years	
50 – 64 years	
65 years and above	

6. Are you currently in paid employment?

Yes ☐ No ☐

7. Which one of the following describes your present situation?

Married/ living with a partner ☐

Widow/ Widower ☐

Single ☐

Seperated/Divorced ☐

8. How many years have you had in full time education since age 10?

		years

9. What is the highest educational qualification that you have obtained?

Please tick the relevant box:

No qualifications		'A' level or equivalent	
CSE or equivalent/ GCSE (grades D-G)		Degree or equivalent	
'O' level or equivalent/ GCSE (grades A-C)		Higher degree or equivalent	
		I have other qualifications not listed above.	

If other, please give details.

……

……

10. Within the last month, have you required any sickness certificates or claimed disability benefit?

Sickness certificates: Yes ☐ No ☐

Disability benefit: Yes ☐ No ☐

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE
If you have any comments on the questionnaire or the study please enter them below.

Hull and East Yorkshire Hospitals NHS
NHS Trust
Institute of Rehabilitation
215 Anlaby Road,
Hull,
East Yorkshire.
HU3 2PG
Tel: (01482) 675602
Fax: (01482) 675636

Appendix Four

THE UNIVERSITY OF HULL

I am a Superintendent Physiotherapist employed by the Hull and East Yorkshire Hospitals Trust and based within the Institute of Rehabilitation, Hull University.

I am currently undertaking a PhD in which I am studying the factors which influence physiotherapists' ability to interact with patients in the physiotherapeutic consultation/ subjective assessment.

In theory, physiotherapists are more likely to involve patients effectively in the initial assessment if they

i) believe that patient involvement is important,
ii) know how to involve patients fully in the consultation/assessment, and
iii) are able to apply this knowledge in clinical practice.

Undergraduate communication skills training for physiotherapists varies greatly between Universities. There are very few postgraduate communication skills courses for physiotherapists. As physiotherapists communication skills are not routinely assessed in clinical practice, it is difficult to know how well physiotherapists interact with their patients.
There are few studies which have examined patient involvement in physiotherapy. Those that have been conducted have tended to focus on goal setting, rather than on the subjective, history-taking part of the consultation.

What I should like to do is to explore

a) in the subjective examination by means of a short questionnaire.
b) physiotherapists' ability to recognise the potential for involvement within three 5 minute simulated consultation vignettes, as played by actors.

I am approaching physiotherapy managers within an accessible geographical area of Hull to see whether they would be willing to collaborate in this project.

What I would require would be an opportunity to address a group of physiotherapy staff for an hour. In order to make this a mutually beneficial meeting, I am willing to deliver a short presentation for a further 15 minutes which examines the evidence supporting patient involvement within a

consultation and the techniques that can be adopted to ensure that patients are given every opportunity to share power in the physiotherapeutic assessment.
I would also require a room, which is large enough to contain a reasonable number of staff and has a blank wall where it would be possible to project the video clips.
The meeting would be organised such that staff watch and evaluate the three, five minute simulated consultations first. This would take 30 minutes. Staff are then given a questionnaire to complete which would take 15 minutes. Both the questionnaires and the evaluation sheets would then be collected. If staff need to return to clinical areas at this point they will be given a pack which contains details of the Institute of Rehabilitation and a copy of the presentation slides
Due to the pressures on physiotherapy staff I realise that it is only usually possible to free staff at lunch time, during timetabled CPD time or at the end of the day. In recognition of this fact I would be willing to supply some light refreshments i.e. cakes and fruit if required.

I would be grateful if you could contact me either electronically at a.j.green@hull.ac.uk or by telephone (Tel 01482 675640) to indicate whether or not, you would be interested in collaborating in this project. If you indicate an interest, I shall contact you by telephone to discuss the matter further.

Yours sincerely

Angela Green
Research and Development Therapist

Appendix Five

Hull and East Yorkshire Hospitals NHS
NHS Trust
Institute of Rehabilitation
215 Anlaby Road,
Hull,
HU3 2PG.
Tel: (01482) 675640

Dear Colleague

<u>An investigation of the factors which influence patient interaction in the physiotherapeutic assessment/consultation.</u>

In recent years there has been growing interest in the way that healthcare professionals communicate with their patients. We know that effective communication between healthcare provider and patient results in fewer misunderstandings and reduces patient's anxiety. As a result, patients are more likely to follow any resultant exercise programme or recommendations. This is of particular relevance to physiotherapists, since our recommendations often require the patient to make changes in behaviour or lifestyle e.g. to ensure that they avoid sitting in chairs below a certain height or to take up a form of exercise on a regular basis.

The study is being conducted as part of a PhD in rehabilitation within the Institute of Rehabilitation at the University of Hull.
The aim of the study is to

- investigate how physiotherapists evaluate patient involvement within simulated consultation vignettes.
- explore physiotherapist's opinions on the importance of certain aspects of the initial assessment/consultation.
- see how much agreement exists between physiotherapists and patients ratings of the most important aspects of the consultation.

I would like to invite you to take part in the above mentioned research study.
If you would like to participate, you must attend a meeting to be held in (*location)* on (*date)*. This meeting will last one hour and is appropriate to physiotherapists of any grade and from any clinical area. You will be asked to watch and evaluate three, five minute simulated consultations. This would take 40 minutes. You will then be asked to complete a questionnaire which would take 15 minutes. All answers given will be totally anonymous.
N.B. There are no right or wrong answers to these questions.
If you would be interested in taking part, I would be grateful if you could place a tick on the sheet provided in (*location)*. DO NOT WRITE YOUR NAME.

You are under no obligation to participate in this study.
I am very grateful to you for your assistance.
Yours faithfully

Angela Green
Research and Development Therapist

Appendix Six:

NHS Trusts who participated in the regional vignette study

Bradford Teaching Hospitals NHS Trust

Calderdale and Huddersfield NHS Trust

Doncaster and Bassetlaw Hospitals NHS Foundation Trust

Hull and East Yorkshire Hospitals NHS Trust

Northern Lincolnshire and Goole Hospitals NHS Trust

Rotherham General Hospitals NHS Trust

Scarborough and North East Yorkshire Health Care Trust

The Mid Yorkshire Hospitals NHS Trust

Trafford Healthcare NHS Trust

Appendix Seven

Video evaluation exercise

Dear Colleague,

I am very grateful to you for agreeing to assist with this research project.
The aim of this part of the study is to explore how different physiotherapists evaluate patient involvement within simulated consultation vignettes.

You are about to be shown three short video clips of an excerpt taken from an initial musculoskeletal out-patient assessment. The assessment is simulated by actors. Each clip features the same physiotherapist and patient in the same consultation, however the way in which the physiotherapist interacts with the patient differs. I would be grateful if you could watch each vignette carefully, and indicate how effectively the physiotherapist performed each of the activities that are listed. The assessment featured is, in no way, supposed to represent a full subjective musculoskeletal assessment. Please do not judge it according to clinical accuracy. For the purpose of this exercise please focus on the physiotherapist's interaction with the patient.
Once you have watched all three vignettes you will be given the opportunity to watch them again in the same order as before.

Please place a **TICK** in the most appropriate box, on each form to indicate your selection. If you change your mind, either erase the tick, or place a line through the tick to indicate that it has been crossed out, and place a new tick in the appropriate box. **Please check that you have placed a response against each activity on all three forms before you submit the evaluation sheets.** Do not write your name on the evaluation sheets as these are to remain anonymous.

Do not remove the questionnaire from the accompanying envelope until you are instructed to do so.

Many thanks for your help.

Angela Green
Research and Development Therapist.

VIGNETTE EVALUATION SHEET:
VIDEO 1

Please place a tick in the most appropriate box to indicate how effectively the physiotherapist performed each of the activities listed below.

	Description	Very Unsatisfactory	Unsatisfactory	Acceptable	Good	Very Good
1	Physiotherapist encourages patient to tell their story.					
2	Physiotherapist treats the patient as an equal.					
3	Physiotherapist "actively" listens to what the patient has to say.					
4	Physiotherapist explores the effect of the problem on the patient's emotional status.					
5	Physiotherapist explores patient's expectations of relevance to the physiotherapy consultation.					
6	Physiotherapist explores the effect of the problem on patient's social activities.					
7	Overall, how effectively do you think the physiotherapist involved the patient in this consultation?					

VIGNETTE EVALUATION SHEET:
VIDEO 2

Please place a tick in the most appropriate box to indicate how effectively the physiotherapist performed each of the activities listed below.

	Description	Very Unsatisfactory	Unsatisfactory	Acceptable	Good	Very Good
1	Physiotherapist encourages patient to tell their story.					
2	Physiotherapist treats the patient as an equal.					
3	Physiotherapist "actively" listens to what the patient has to say.					
4	Physiotherapist explores the effect of the problem on the patient's emotional status.					
5	Physiotherapist explores patient's expectations of relevance to the physiotherapy consultation.					
6	Physiotherapist explores the effect of the problem on patient's social activities.					
7	Overall, how effectively do you think the physiotherapist involved the patient in this consultation?					

VIGNETTE EVALUATION SHEET
VIDEO 3

Please place a tick in the most appropriate box to indicate how effectively the physiotherapist performed each of the activities listed below.

	Description	Very Unsatisfactory	Unsatisfactory	Acceptable	Good	Very Good
1	Physiotherapist encourages patient to tell their story.					
2	Physiotherapist treats the patient as an equal.					
3	Physiotherapist "actively" listens to what the patient has to say.					
4	Physiotherapist explores the effect of the problem on the patient's emotional status.					
5	Physiotherapist explores patient's expectations of relevance to the physiotherapy consultation.					
6	Physiotherapist explores the effect of the problem on patient's social activities.					
7	Overall, how effectively do you think the physiotherapist involved the patient in this consultation?					

Appendix Eight

Hull and East Yorkshire Hospitals NHS
NHS Trust

East Yorkshire NHS
Primary Care Trust

THE UNIVERSITY OF HULL

PHYSIOTHERAPIST INFORMATION SHEET

An exploration of physiotherapist's perceived and actual communication skills in the initial consultation.

I would like to invite you to take part in the above mentioned research study. The study is being conducted as part of a PhD within the Postgraduate Medical Institute at the University of Hull.
Before you decide whether you wish to take part or not, it is important for you to understand why the research is being done and what it will involve.
Please take time to read the following information carefully and discuss it with others if you wish. Please feel free to contact me if there is anything that is not clear or if you would like more information.
Do not feel that you have to make a decision immediately. Instead take time to decide whether or not you wish to take part.

Thank you for reading this.

Background

In recent years there has been growing interest in the way that healthcare professionals communicate with their patients.
All physiotherapists are required to communicate effectively with their patients. A physiotherapist's ability to communicate with their patients is not routinely assessed in clinical practice.
We know that effective communication between healthcare provider and patient results in fewer misunderstandings and reduced anxiety. As a result, patients are more likely to follow any resultant exercise programme or recommendations. This is of particular relevance to physiotherapists, since their recommendations often require the patient to make long term changes in behaviour or lifestyle e.g. to ensure that they avoid sitting in chairs below a certain height or to take up a form of exercise on a regular basis.

What is the purpose of the study?

The aims of the study are to

- compare physiotherapists' and patients' beliefs about the importance of communication.
- see how much agreement there is between physiotherapists and patients ratings of the most important aspects of the consultation.
- determine how physiotherapists communicate with patients in the consultation.
- explore physiotherapist's communication skills both in clinical practice and in viewing video clips of simulated consultations.

Why have I been chosen?

I am inviting physiotherapists to participate who are employed by either the Hull and East Yorkshire Hospitals NHS Trust or the Therapy Partnership Group, East Yorkshire primary care Trust, and whose caseload includes out-patients of 18 years of age or older, who are seen on NHS Trust property. It is hoped that information can be gathered from 25 physiotherapists. The physiotherapists chosen will represent the largest areas of out-patient activity, namely cardio-respiratory, neurology and musculoskeletal. Each physiotherapist will be videotaped in their first consultation with 4 patients.

What will happen to me if I take part and what will I have to do?

You will be asked to send details of the study to four patients from the top of the waiting list. Once the patients have had an opportunity to read the study details either the physiotherapist, or reception staff will contact the patients in the usual way to offer an appointment. You will be asked to do this by telephone in order to determine whether, or not, they wish to participate in the study. If the patient wishes to be part of the study, the researcher will arrange to meet the patient prior to your appointment in order to obtain the patient's written consent. The video camera will be set up ready for your appointment with that patient. You will be required to place the lens cap on the camera should you wish the patient to undress for examination purposes but the microphone will continue to record any dialogue between yourself and the patient. Following the consultation, the researcher will remove the camera and see the patient to ensure they do not wish to revoke consent.
Once you have been videotaped with four patients you will be asked to attend a meeting. At the meeting you will be shown three vignettes of a simulated consultation to evaluate, and you will be asked to complete a questionnaire. The meeting should last an hour. Once you have completed the evaluation and questionnaire your involvement in the research will be over.

Are there any risks in taking part?

As the study does not involve any changes to the usual management of patients, there are no risks likely to occur as a result of taking part in this study.

What are the benefits of taking part?

It has been suggested that there are links between healthcare workers ability to communicate with their patients and emotional fatigue. It is not uncommon for physiotherapists to encounter a patient with whom they are unable to find common ground. The results from this study will be used to guide physiotherapist's future practice which should have an impact upon patient satisfaction, adherence with recommendations and ultimately improved health outcomes. It will determine the best way to support physiotherapists to communicate effectively with their patients and thus reduce the likelihood of emotional fatigue.

Will my details be kept confidential if I take part in this study?

All information which is collected about you during the course of the research will be kept strictly confidential. Your name, address and date of birth are not necessary for the purposes of this research and therefore you will not be recognised from any questionnaires that you complete.

If staff members have concerns about their occupational functioning as a result of emotional fatigue they are advised to contact the Trust Occupational Health Department or their G.P. The Occupational Health Advisor for East Yorkshire PCT is Louise Wade who is based at Victoria House (ext 3914). HEY staff should contact Maureen Mitchell who is based at HRI (Ext 5213).

What will happen to the results of the research study?

The results of the study will be published in a health professional journal and made available to the Trust and the University of Hull by means of a PhD thesis. You will not be identified in any publication.

Who is organising and funding the study?

The research is being set up and co-ordinated at the Institute of Rehabilitation, which is jointly owned by the local NHS trusts and the University of Hull. There are no external funding bodies to date.

Who can I contact for further information?

Further information can be obtained by contacting either of the people below:

Mrs Angela Green, Research and Development Therapist, Institute of Rehabilitation, 215, Anlaby Road, Hull. HU3 2PG. Tel. 01482 675640

Professor Jennifer Klaber Moffett, Institute of Rehabilitation,
215, Anlaby Road, Hull. HU3 2PG. Tel. 01482 675610

Thank you for taking the time to read this leaflet.

Appendix Nine

Hull and East Yorkshire Hospitals NHS
NHS Trust

THE UNIVERSITY OF HULL

East Yorkshire NHS
Primary Care Trust

Study I.D.

PHYSIOTHERAPIST CONSENT FORM

An exploration of physiotherapist and patient communication in the initial consultation.

Name of researcher: Angela Green. MSc MCSP

Please initial the box if you agree with the following statements.

I have read the physiotherapists information sheet dated October 2003, for the above study and have had the opportunity to ask questions. ☐

I understand that my participation is voluntary, and that I am free to withdraw at any time without having to give any reason. I understand that this will not affect my legal rights. ☐

I authorise information obtained about me for this study to be stored and analysed on computer. ☐

I give permission for responsible individuals from the University of Hull, who are involved in this research on a supervisory basis, to have access to the answers that I provide to the questionnaires. ☐

I agree to take part in the above study. ☐

I have been informed that the study will involve video recordings of my interaction with patients and give my consent to this. ☐

Name of Physiotherapist	Date	Signature

Researcher	Date	Signature

Appendix Ten

Hull and East Yorkshire Hospitals NHS
NHS Trust

Hull Royal Infirmary
Anlaby Road
Hull
HU3 2JZ

Date as postmark

Dear

This letter is to notify you that a referral has been received from for physiotherapy.
As your name is near the top of the waiting list, you will be contacted by the physiotherapy department in a couple of weeks time in order to offer you an appointment.

A research study is currently being conducted within the Hull and East Yorkshire Hospitals NHS Trust which involves certain physiotherapy staff.
The purpose of the study is to find out how well physiotherapists communicate with their patients and to see if patients are being adequately involved in decisions about their physiotherapy care.
This information will then be used to improve the way that physiotherapists are trained in the future.

As your physiotherapist may be one of those involved in the study, you will find a leaflet, giving information about the study, attached to this letter.
We would be grateful if you would read the leaflet and take time to consider whether, or not, you wish to take part.
When the physiotherapist, or receptionist, contacts you in a couple of weeks to offer you an appointment, they will ask whether you are interested in taking part in the study. If you are interested in taking part, or wish to have more information, you will be asked to arrive 15 minutes before your allocated appointment time in order to meet the researcher. If you decide that you do not wish to take part, you will be offered an appointment with the physiotherapist as usual. Your decision will not affect the physiotherapy treatment that you receive.

If you have any questions about any of the above, please feel free to contact the researcher, Angela Green, on 01482 675640

Yours sincerely

Mrs E. Minnich
Head of Physiotherapy.

Hull and East Yorkshire Hospitals NHS
NHS Trust

Appendix Eleven

East Yorkshire NHS
Primary Care Trust

PATIENT INFORMATION SHEET

A comparison of physiotherapists' perceived and actual competence in involving patients in the initial consultation.

I would like to invite you to take part in the above mentioned research study.
The study is being conducted as part of a PhD within the Postgraduate Medical Institute at the University of Hull.
Before you decide whether you wish to take part or not, it is important for you to understand why the research is being done and what it will involve.
Please take time to read the following information carefully and discuss it with others if you wish. Please feel free to contact me if there is anything that is not clear or if you would like more information.
Do not feel that you have to make a decision immediately. Instead take time to decide whether or not you wish to take part.

Thank you for reading this.

Background

In recent years there has been growing interest in the way that healthcare workers communicate with their patients.
We know that if the health care worker involves the patient in decisions about his/her health care there are fewer misunderstandings and the patient finds the meeting less stressful. This is because they have been able to talk about the things which worry them about their problem or about the treatment. As a result, patients feel more in control of their problems and are more likely to follow an exercise programme or the physiotherapist's advice. It is important that physiotherapists communicate well with their patients since their recommendations often require the patient to make long term changes in behaviour or lifestyle e.g. to ensure that they avoid sitting in chairs below a certain height or to take up a form of exercise on a regular basis.
If physiotherapy treatment is to be successful, the physiotherapist must be able to find out what the patients needs are and make sure that the treatment plan matches the patient's lifestyle.

What is the purpose of the study?

The aims of the study are to

- to find out how much involvement patients believe that they should have in decisions about their physiotherapy treatment and compare it with the physiotherapists' beliefs.
- to see how much agreement there is between patients and physiotherapists ratings of the most important parts of the consultation.
- to determine how physiotherapists actually involve patients in the consultation.

Why have I been chosen?

We are inviting all patients who have been referred to one of the physiotherapists involved in the study, on an out-patient basis, within the Hull and East Yorkshire Hospitals NHS Trust and the East Yorkshire primary care Trust.
Patients must be 18 years of age, or older, to take part.
It is hoped that information can be gathered from up to 100 first consultations between patients and physiotherapists.

Do I have to take part?

You are free to decide whether or not you want to take part.
If you decide to take part, you will be given this information sheet to keep and will be asked to complete a consent form. You will also be given a copy of the consent form to keep. Once you have given your consent, you will be able to withdraw at any time and without giving a reason. If you decide not to take part, or decide to withdraw from the study, it will not affect the physiotherapy treatment that you receive.

What will happen to me if I take part and what will I have to do?

Before your first consultation you will be met by the researcher who will answer any further questions that you might have. This meeting will take about fifteen minutes in total. If you decide to take part you will be asked for your agreement for your first meeting with the physiotherapist to be captured on videotape. You will also be given a questionnaire to take home and complete at your convenience. Once you have returned the questionnaire, your participation in the study is then complete.
If, having spoken to the researcher, you feel that you would rather not take part, you will see the physiotherapist as normal but this consultation will not be videotaped and you will not be expected to complete a questionnaire.
If you are happy to take part in the study, you will be asked to give your written consent to indicate that you agree to participate in the study and to being videotaped during your consultation.

The researcher will then accompany you into the consultation area in order to set up the video camera. Although the microphone on the camera will record the session, it is the physiotherapist's questions, rather than your responses, that are of interest to the researcher. The physiotherapist will be asked to cover the camera lens during the physical examination if you are required to remove clothing but the microphone will be left running.
At the end of the consultation you will be asked to take a questionnaire home to complete in your own time. A stamped addressed envelope will be provided for its return. The questionnaire should take you no longer than 20 minutes to complete. Once you have completed the questionnaire your involvement in the research will be over.

Are there any risks in taking part?

The study is to find out whether your physiotherapist gives you the chance to say what you need in the consultation, and to find out how involved you wish to be in decisions about your physiotherapy treatment.
If you agree to take part in the study, the only difference that will occur between your consultation and that of another patient is the presence of a video camera.
There are no risks involved in the study. The only part of the study that you must be aware of is that you will need to attend the department, fifteen minutes earlier than your appointment time in order to meet the researcher. She will also need to

see you following your appointment in order to give you a questionnaire and to ensure that you are happy for the recording to be used.

What are the benefits of taking part?

Your physiotherapy treatment will not be affected in any way, however, your views, as expressed in the questionnaires, will help physiotherapists to involve patients more appropriately in future consultations.

Will my details be kept confidential if I take part in this study?

All information which is collected about you during the course of the research will be kept strictly confidential. Your name, address, date of birth and hospital number are not necessary for the purposes of this research and therefore you will not be recognised from any questionnaires that you complete.

What will happen to the results of the research study?

The results of the study will be published in a professional journal and will be made available to the Hull and East Yorkshire NHS Trust, East Yorkshire primary care Trust and the University of Hull by means of a PhD thesis. This should be in 3 years time. You will not be identified in any publication.

Who is organising and funding the study?

The research is being set up and co-ordinated at the Institute of Rehabilitation, which is jointly owned by the local NHS Trusts and the University of Hull. There are no external funding bodies to date.

Who can I contact for further information?

Further information can be obtained by contacting either of the people below:

Mrs Angela Green, Research and Development Therapist, Institute of Rehabilitation, 215, Anlaby Road, Hull. HU3 2PG. Tel. 01482 675640

Professor Jennifer Klaber Moffett, Institute of Rehabilitation, 215, Anlaby Road, Hull. HU3 2PG. Tel. 01482 675610

Thank you for taking the time to read this leaflet.

Appendix Twelve

Hull and East Yorkshire Hospitals NHS Trust

East Yorkshire NHS Primary Care Trust

THE UNIVERSITY OF HULL

Study I.D.

PATIENT CONSENT FORM

A comparison of physiotherapists' perceived and actual competence in involving patients in the initial consultation.

Name of researcher: Angela Green. MSc MCSP

Please initial the box if you agree with the following statements.

I have read the patient information sheet dated -------, for the above study and have had the opportunity to ask questions of _____. ☐

I understand that my participation is voluntary, and that I am free to withdraw at any time without having to give any reason. I understand that this will not affect my medical care or legal rights. ☐

I authorise information obtained about me for this study to be stored and analysed on computer. ☐

I give permission for responsible individuals from the University of Hull, who are involved in this research on a supervisory basis, to have access to the answers that I provide to the questionnaires. ☐

I agree to my General Practitioner (G.P.) being informed of any significant findings arising from my answers to the hospital anxiety and depression screening questionnaire. ☐

I agree to take part in the above study. ☐

_____	_____	_____
Name of Patient	**Date**	**Signature**
_____	_____	_____
Researcher	**Date**	**Signature**

Appendix Thirteen

Hull and East Yorkshire Hospitals NHS
NHS Trust

East Yorkshire NHS
Primary Care Trust

THE UNIVERSITY OF HULL

Study I.D.

VIDEO RECORDED CONSULTATION PATIENT CONSENT FORM

I give my permission for my first consultation with my physiotherapist to be video-recorded today. I understand that the video is for research purposes as explained in the patient information leaflet dated October 2003.

I am aware that at any time during the consultation I can ask for the video camera to be turned off.

I understand that, if after the consultation I would prefer the videotape to be erased, I may ask the Physiotherapist or Researcher to do so before I leave.

I authorise the video recording to be viewed by a research assistant and responsible individuals from the University of Hull who are involved in this research on a supervisory basis.

I am happy that the video recording will be kept in a locked drawer at the Institute of Rehabilitation until the end of the research project when the video recording will be erased.

Name of Patient	**Date**	**Signature**
Name of Person Accompanying Patient	**Date**	**Signature**
Researcher	**Date**	**Signature**

Appendix Fourteen

PATIENT INVOLVEMENT IN PHYSIOTHERAPY EVALUATION (PIE) TOOL

This tool is divided into seven sections and contains 36 items. The items in the tool are referred to by a brief descriptor to facilitate ease of observation and scoring. The rater should be fully conversant with the full definition of each item prior to using the tool. These are listed in the glossary at the back.

For each of the items please place either **VU; U; A; G; VG, TD or NA** in the rating box provided to indicate how the physiotherapist employed that item, where:

VU = **Very Unsatisfactory**

- The physiotherapist omits the item completely, or,
- it is used inappropriately or insensitively, or,
- it is detrimental to the consultation, or,
- it creates a negative impression of the physiotherapist's willingness or ability to involve the patient *overall*.

U = **Unsatisfactory**

- The physiotherapist pays lip service to the use of this item.
- It may be used in a directive manner so the patient is only able to respond with a yes or no (E.g. The name that we have for you on the card is X, is it alright if I call you Y?),
- or if the item does not require a patient response, it is performed badly. (E.g. Excessive information delivered in an unstructured manner which contains jargon and few demonstrations, visual aids or summary).
- It may be incomplete such that the information given is of no lasting use E.g. My name is Dot and I shall be your physiotherapist (full name and role omitted)
- Information obtained is not referred to later in the consultation, or
- its use appears awkward or clumsy and creates a negative impression of the physiotherapists' ability to employ *this item*.

A = **Acceptable**

- The physiotherapist may gather sufficient information but may not utilise this information appropriately.
- The physiotherapist may have attempted to use this item but has not done so completely. E.g. Introduced themselves by full name but did not give their role
- Its use creates neither a positive nor a negative impression of their ability to involve the patient.

G = **Good**

- The physiotherapist incorporates the item into the consultation to good effect,
- Some room may be left for improvement.
- Information that is elicited is used later in the consultation to further enhance patient involvement, where appropriate.
- Rater is left with an impression that the use of the item enabled the patient to be involved in the consultation.

VG = **Very Good**

- The physiotherapist incorporated the item effortlessly, competently and effectively.
- Information that is elicited is used later in the consultation to further enhance patient involvement, where appropriate.
- The rater is left with an impression that the physiotherapist is confident and competent in their ability to utilise these tasks in order to actively involve the patient in the consultation.
- It was felt that the physiotherapist's use of the items made a significant contribution towards enabling the physiotherapist and patient to have achieved a mutual understanding of the problem, and a treatment plan and goals based on both patient and physiotherapists perspectives.

TD = Technical Difficulty

- Where an item could not be observed due to technical difficulties beyond the control of the physiotherapist (e.g. the camera was badly positioned or the sound quality was too poor) This will ensure that the physiotherapist is not marked down for omissions which were beyond their control.

NA = Not Applicable

If an item was not observed but was considered to be purposefully omitted by the physiotherapist, in order to respond appropriately to events that occurred at the time that the task would usually be employed. In this case the omission of the task demonstrates that the physiotherapist is sensitive to the situation and can vary their approach to the consultation in order to meet the needs of the patient and refrain from duplicating information.

A comments box is available adjacent to each item to allow the rater to make notes as the consultation progresses which might assist in the allocation of a rating for that particular item at the end of the consultation.

1	ESTABLISHING A THERAPEUTIC RELATIONSHIP		
	Description	**Rating**	**Comments**
	Physio introduction		
	Patient name		
	Small talk, smiles and humour		
	Empathy.		

2	TECHNIQUES WHICH PROMOTE PATIENT INVOLVEMENT		
	Description	**Rating**	**Comments**
	Purpose of consultation		
	Invites questions		
	Elicits narrative		
	Listening		
	Responds to signals / cues		
	Summarises		
	Invites correction or further information		
	Patient as equal.		

3	ELICITING THE PATIENT'S PERSPECTIVE	
Description	**Rating**	**Comments**
Reason for coming		
Beliefs / understanding of problem		
Expectations of physio		
Patient's worries		
Deals with worries		
Recreational activities		
Effect on family/ friends/Carer?		
Employment status		
Emotional well-being.		

4	INFORMATION GIVING	
Description	**Rating**	**Comments**
Explains problem – pt beliefs		
Explains problem - explanatory terms		
Information needs		
Clear, concise explanations		
Checks understanding		
Acceptability of explanation		

5	TREATMENT PLANNING	
Description	**Rating**	**Comments**
Preferences re: physio		
Evidence, experience, pros & cons		
Uses patient information		
Patient given choice?		
Negotiate/agree plan		

6	GOAL SETTING	
Description	**Rating**	**Comments**
Elicits patient's desired goal		
Agree progress marker		
Negotiate need for further appointments.		

7	HEALTH PROMOTION	
Description	**Rating**	**Comments**
Advice on future health		

GLOSSARY TO PIE TERMS:

SECTION 1: ESTABLISHING A THERAPEUTIC RELATIONSHIP

Physio introduction: Physiotherapist introduces self (full name) and role (i.e. senior physio).

Patient name: Physiotherapist enquires about the name by which the patient wishes to be known (Physiotherapist should not give patient options but invites patient to state their own preference).

Small talk, smiles and humour: Uses small talk, smiles and humour where appropriate.

Empathy: Physiotherapist demonstrates empathy when necessary (i.e. demonstrates an understanding/ recognition of the patient's feelings. Empathy is NOT when the physiotherapist states that they know just how the patient feels).

SECTION 2: TECHNIQUES WHICH PROMOTE PATIENT INVOLVEMENT

Purpose of consultation: Defines purpose of consultation in terms of partnership/ sharing of information i.e. the physiotherapist makes it clear from the start that the consultation is a two way exchange in which the patient's involvement is actively encouraged.

Invites questions: Invites patient to ask questions at any point in proceedings.

Elicits narrative: Invites patient to tell story of problem and its effect on their life. This is achieved using open, non-directive questions, and can then be followed by more directive open questions and narrows exploration to closed questions before moving to a different area of exploration. The physio should invite the patient to impart their knowledge in an open non directive manner. Interruptions are acceptable if the patient requires refocusing.

Listening: Listening: demonstrates attentive listening by echoing significant words, eye contact, appropriate nods and smiles. Allows patient to complete statements without interruption and leaves space for patient to go on after pausing or to think before answering.

Responds to signals / cues: Physiotherapist is seen or heard to respond to signals (i.e. specific body language which indicates that the patient has issues which the physiotherapist should explore further) or cues (spoken comments which the physiotherapist should explore further),to develop a deeper understanding of problem. Eg. "You look as if you are a little uncomfortable" (patient fidgets or pulls a pained face but says nothing); "You

mentioned that your back pain was causing problems between you and your boss at work. Would you like to tell me a bit about that, because there maybe specific advice or equipment that I can recommend to help you to manage your back problem in the workplace."

Summarises periodically: Physiotherapist summarises notes or understanding periodically, to check accuracy of interpretation of what the patient has said.

Invites correction / further information: This item follows the physiotherapist summary, as it is asking the patient to confirm or correct the physiotherapist's interpretation of what the patient has said and asking the patient if they have anything further to add.

Patient as equal: Physiotherapist treats the patient as an equal. This is an evaluation of whether the physiotherapist used their bodily position, or status to distant the patient to the detriment of an adult:adult relationship. Did the physio talk to the patient in a manner that was respectful and non patronising or judgemental? Did the physiotherapist appear to treat the patient as an expert in their own problem and body i.e. were they interested in what the patient had to say? Did the physiotherapist attend to the patient's comfort? Did the physiotherapist start to discuss things whilst the patient was still undressed or in a position where they would not be empowered? Did the physiotherapist ever ask the patient if they would mind removing clothing or allow a physical examination?

SECTION 3: ELICITING THE PATIENT'S PERSPECTIVE

Reason for coming: Physiotherapist asks patient to identify their understanding of why they have come/ been referred to see the physiotherapist.

Beliefs / understanding of problem: Elicits patient's beliefs regarding the cause of the problem, i.e. what they think problem is, why this produces their symptoms - in patients own words.

Expectations of physiotherapy: Elicits patients' expectations of what physiotherapy is, and what outcome are they expecting from the physiotherapy?

Patient's worries: Physiotherapist elicits patient's worries regarding each problem.

Deals with worries: Physiotherapist deals with worries at an appropriate point in the consultation. It maybe pertinent to defer discussion about concerns until the consultation has concluded. The rater must be satisfied that the physiotherapist has explained to the patient that she will deal with these issues, and gives a reasonable explanation of when this will be.

Recreational activities: Physiotherapist explores effect of problem on patient's ability to access recreational activities.

Effect on family/friends/Carer?: Physiotherapist asks about effect of problem on family/ friends. Also determines whether patient is a carer, and if so explores implications of problem or physio intervention on the dependent person.

Employment status: Physiotherapist explores effect of problem on ability to work and employment status.

Emotional well-being: Physiotherapist explores effect of problem on patient's emotional well-being.

SECTION 4: INFORMATION GIVING

Explains problem – beliefs: Physiotherapist explains problem with reference to patients beliefs or health understanding.

Explains problem - explanatory terms: Physiotherapist explains problem using same explanatory terms as patient.

Information needs: Physiotherapist at some point asks patient if there is anything that they could do with advice about, or checks with patient during history taking whether they would like to be told about how to improve e.g. driving position / sleeping position etc.

Clear, concise explanation: Physiotherapist gives information in a logical manner, concise, easily understood, uses repetition and summary to reinforce main points, uses simple, jargon free language and may supplement with visual aids or leaflets to aid recall. Physiotherapist uses patients response as a guide to the depth and amount of information to deliver.

Checks understanding: Physiotherapist checks understanding of explanation.

Acceptability of explanation: Physiotherapist checks acceptability of explanation.

SECTION 5: TREATMENT PLANNING

Preferences re: physiotherapy: Physiotherapist determines whether patient has any preferences or expectations regarding physio treatment e.g. home programme vs departmental intervention.

Evidence, experience, pros & cons: Physiotherapist shares thoughts with patient regarding evidence, own experience, availability and pros or cons of possible interventions.

Uses patient information: Physiotherapist refers to information proffered by patient when discussing suitable treatment options.

Patient given choice?: Patient is given choice including option to refuse physiotherapy.

Negotiate/agree plan: Physiotherapist and patient negotiate/agree a mutually acceptable treatment plan.

SECTION 6: GOAL SETTING

Patient's desired goal: Physiotherapist elicits patient's desired goal.

Agree progress marker: Physiotherapist and patient agree marker by which patient can be involved in assessing progress.

Negotiate need for further appointments: Physiotherapist and patient negotiate need for and frequency of follow up appointments.

SECTION 7: HEALTH PROMOTION

Advice on future health: Physiotherapist gives patient advice on how to stay healthy in the future.

Appendix Fifteen:
Proportion of acceptable scores per item per consultation, and proportion of total possible score per consultation and per physiotherapist

	Consultation 1			Consultation 2			Consultation 3		
Physiotherapist	Number of items not applicable	Proportion of applicable PIE items that were performed to an acceptable standard (%)	Consultation PIE score expressed as a proportion of the total possible score (%)	Number of items not applicable	Proportion of applicable PIE items that were performed to an acceptable standard (%)	Consultation PIE score expressed as a proportion of the total possible score (%)	Number of items not applicable	Proportion of applicable PIE items that were performed to an acceptable standard (%)	Consultation PIE score expressed as a proportion of the total possible score (%)
1.1	2	35.3	27.2	15	28.6	26.2	12	41.7	28.1
1.2	3	36.4	32.6	3	48.5	39.4	8	32.1	26.8
1.3	1	25.7	23.6	4	43.8	31.3	5	32.3	20.2
1.4	1	60.0	45.7	0	41.7	32.6	5	45.2	35.5
1.5	1	25.7	20.0	2	32.4	20.6	2	20.6	16.2
1.6	3	39.4	26.5	7	31.0	27.6	4	43.8	33.6
1.7	3	42.4	31.8	6	36.7	26.7	5	29.0	22.6
1.9	3	33.3	28.8	3	24.2	21.2	3	45.5	30.3
2.4	2	26.5	24.3	0	36.1	28.5	2	26.5	23.5
2.5	1	34.3	30.7	1	25.7	20.0	0	63.9	53.5
2.6	6	33.3	31.7	2	29.4	24.3	1	45.7	32.1
2.2	8	57.1	41.1	4	50.0	40.6	5	71.0	54.8
2.3	6	43.3	39.2	8	32.1	27.7	0	63.9	43.8
2.8	2	55.9	39.7	5	54.8	46.8	2	47.1	41.2
2.1	0	25.0	22.9	0	22.2	18.1	0	19.4	16.7
2.2	0	30.6	17.4	5	25.8	25.0	2	32.4	22.1
3.1	3	57.6	37.1	8	53.6	37.5			
3.2	7	58.6	38.8	0	55.6	42.4	3	48.5	32.6
3.4	2	47.1	41.9	13	60.9	50.0	6	43.3	27.5
3.5	4	59.4	41.4	2	50.0	39.0	4	65.6	43.8

Appendix Fifteen Continued
Proportion of acceptable scores per item per consultation, and proportion of total possible score per consultation and per physiotherapist.

	Consultation 4			Overall scores	
Physiotherapist	Number of items not applicable	Proportion of applicable PIE items that were performed to an acceptable standard (%)	Consultation PIE score expressed as a proportion of the total possible score (%)	**Proportion of applicable PIE items overall that were performed to an acceptable standard (%)**	**Overall PIE score per physiotherapist, expressed as a proportion of the total possible score (%)**
1.1				**35.4**	**27.2**
1.2				**39.4**	**33.0**
1.3	3	33.3	25.0	**35.6**	**25.0**
1.4	2	47.1	34.6	**48.5**	**37.1**
1.5	6	40.0	25.8	**29.3**	**20.5**
1.6	1	34.3	25.7	**37.2**	**28.3**
1.7	3	21.2	18.9	**32.3**	**25.0**
1.9	5	32.3	28.2	**33.9**	**27.1**
2.4	1	25.7	22.1	**28. 8**	**24.6**
2.5	2	38.2	30.2	**40.7**	**33.8**
2.6	2	29.4	26.5	**34.6**	**28.6**
2.2	2	44.1	31.6	**55.2**	**41.8**
2.3	0	27.8	21.5	**42.3**	**30.1**
2.8	1	45.7	37.1	**50.8**	**41.0**
2.1	0	16.7	18.1	**20.8**	**18.9**
2.2	1	34.3	25.0	**30.9**	**22.2**
3.1				**55.7**	**37.3**
3.2	5	38.7	29.0	**50.4**	**35.9**
3.4	5	64.5	46.8	**53.4**	**41.1**
3.5	5	64.5	46.8	**59.7**	**42.6**

Appendix Seventeen:

Membership of Expert Panels

Members of the expert panels were recruited from past or present staff members or associates of the Institute of Rehabilitation and the Hull and East Yorkshire Hospitals NHS Trust.

Panel to determine whether the PAPI items were representative of patient involvement in physiotherapy (page 59):

Professor Jennifer Klaber Moffett, Professor of Rehabilitation and Therapies,
Mrs Elizabeth Minnich, Head of Physiotherapy, Hull and East Yorkshire Hospitals NHS Trust
Miss Agnes Jennings, Physiotherapy Manager, Castle Hill Hospital, Hull and East Yorkshire Hospitals NHS Trust
Dr Donald Sharp, Senior lecturer in clinical psychology and honorary consultant in Clinical Psychologist, Hull and East Yorkshire Hospitals NHS Trust
Mr David Jackson, Physiotherapy Effectiveness Facilitator, Therapy Partnership Group, East Yorkshire PCT
Miss Sionnadh McLean, Research and Development Therapist, Hull and East Yorkshire Hospitals NHS Trust
Dr Caroline Barron, Physiotherapy manager, Methley Park Hospital, Methley, Leeds Mrs Sandra Grindell, Patient Representative
Miss Lindsay Knott, Patient Representative

Panel to determine validity of vignettes and items on the vignette evaluation sheet (page 69)

Professor Leslie Walker, Director of Institute of Rehabilitation and Consultant Clinical Psychologist, Hull and East Yorkshire Hospitals NHS Trust
Dr Donald Sharp, Senior lecturer in clinical psychology and honorary consultant in Clinical Psychologist, Hull and East Yorkshire Hospitals NHS Trust

Miss Sarah Eaton, Psychology researcher, Institute of Rehabilitation
Professor Jennifer Klaber Moffett, Professor of Rehabilitation and Therapies,
Mr David Jackson, Physiotherapy Effectiveness Facilitator, Therapy Partnership Group, East Yorkshire PCT
Miss Sionnadh McLean, Research and Development Therapist, Hull and East Yorkshire Hospitals NHS Trust
Miss Eileen Henderson, Therapy Services Manager, Hull and East Yorkshire Hospitals NHS Trust
Mrs Madeleine Wang, Patient Representative.
Mrs Sandra Grindell, Patient Representative

Panel to derive a consensus score for each vignette (page 70)

Professor Leslie Walker, Director of Institute of Rehabilitation and Consultant Clinical Psychologist, Hull and East Yorkshire Hospitals NHS Trust
Dr Donald Sharp, Senior lecturer in clinical psychology and honorary consultant in Clinical Psychologist, Hull and East Yorkshire Hospitals NHS Trust
Professor Jennifer Klaber Moffett, Professor of Rehabilitation and Therapies,
Mr David Jackson, Physiotherapy Effectiveness Facilitator, Therapy Partnership Group, East Yorkshire PCT
Mrs Sandra Grindell, Patient Representative
Miss Lindsay Knott, Patient Representative

Panel to assess the PIE tool for content validity, ambiguity and item duplication (page 74)

Professor Leslie Walker, Director of Institute of Rehabilitation and Consultant Clinical Psychologist, Hull and East Yorkshire Hospitals NHS Trust
Dr Donald Sharp, Senior lecturer in clinical psychology and honorary consultant in Clinical Psychologist, Hull and East Yorkshire Hospitals NHS Trust
Miss Sarah Eaton, Psychology researcher, Institute of Rehabilitation
Dr Eric Gardiner, Medical Statistician
Professor Jennifer Klaber Moffett, Professor of Rehabilitation and Therapies,

Mr David Jackson, Physiotherapy Effectiveness Facilitator, Therapy Partnership Group, East Yorkshire PCT