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The Scientific Pages of Nursing

Research Article Open Access

Woman's Experience of Childbirth: Qualitative Analysis from Data Derived from the 30-Item-Birth-Satisfaction-Scale

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Abstract

Background: The 30-Item-Birth-Satisfaction-Scale (30-item-BSS) was developed to evaluate women's experiences of childbirth.

Objective: To thematically analyse the qualitative responses to questions comprising the 30-item BSS questionnaire, to identify whether the qualitative responses are in anyway harmonized with experiences reported within the quantitative portion of the 30-item-BSS.

Study design: The focus of our enquiry was the analysis of secondary data from (n = 115) completed 30-item-BSS questionnaires in which respondents provided textual comments to the quantitative questions in order to draw separate qualitative analysis of birth satisfaction. Line-by-line thematic coding was conducted to classify each written comment into a theme. Themes representing birth satisfaction were subsequently analysed using constant comparative analysis to differentiate birth satisfaction classifications that range from high to low, Exceptional, Good, Satisfactory, Unsatisfactory.

Participants: The completed questionnaires (30-tem-BSS) from a convenience sample of postnatal women (< 10 days postpartum) who had delivered a healthy term infant.

Findings: The experiences for childbirth were ultimately classified as Exceptional for 4 women, Good for 39 women, Satisfactory for 55 women, and Unsatisfactory for 17 women.

Key conclusions: We found that qualitative data synchronized favorably with data from the quantitative aspect of the BSS.

Implications for practice: Two versions of the BSS are available: (1) The psychometrically valid and reliable 10-item-BSS from which scores can be correlated with other validated measures, and (2) The 30-item-BSS designed to assess individual women's experiences prior to in-depth qualitative work. Both scales are available from the second author.

Keywords

Birth, Birth-Satisfaction-Scale (BSS), Childbearing, Construct validity, Experience, Satisfaction, Women

Introduction

Birth satisfaction encompasses a woman's evaluation of her birth experience and includes factors such as her appraisal of the quality of care she received, a personal assessment of how she coped, and her reconstructions of what happened on that particular day. Her accounts may be accurate or skewed, yet correspond with her perceived reality of how events unfolded.

There are many ways to assess birth satisfaction, with audit tools just one approach. For example Dencker, et al. developed a tool to evaluate primigravidas' experiences and relationships with complications, such as prolonged labour and medical interventions during labour [1]. Matsubara, et al. also assembled a culturally specific generalized client satisfaction questionnaire to evaluate Filipino women's birth experiences [2]. Of particular interest to this study, is the 30-item-Birth-Satisfaction-Scale (30-item-BSS) developed by Hollins Martin and Fleming, which proceeded to be qualitatively validated by Hollins Martin, et al. [3,4]. It was also

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Received: November 21, 2016; **Accepted:** February 10, 2017; **Published online:** February 14, 2017

Citation: Procter S, Hollins Martin CJ, Larkin D, et al. (2017) Woman's Experience of Childbirth: Qualitative Analysis from Data Derived from the 30-Item-Birth-Satisfaction-Scale. Scientific Pages Nurs 1(1):10-17

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Table 1: Items on the 30-item-BSS developed from the literature review by Hollins Martin and Fleming (2011) and concurrently validated by Hollins Martin, et al. (2012).

• -Quality of Care (QC) (8-items) (Q, 10, 12, 13, 14, 24, 26, 27, 28) • -Women's Attributes (WA) (8-items) (Q1, 2, 3, 11, 15, 16, 17, 25) • -Stress Experienced (SE) (14-items) (Q4, 5, 6, 7, 8, 9, 18,19, 20, 21, 22, 23, 29, 30)
(1) I coped well during my birth.
(2) The delivery room staff encouraged me to make decisions about how I wanted my birth to progress.
(3) I was well prepared for my labour, i.e., read a lot of literature and/or attended parenthood education.
(4) I found giving birth a distressing experience.
(5) I came through childbirth virtually unscathed.
(6) I gave birth to a healthy normal baby.
(7) During labour I received outstanding medical care.
(8) I received a lot of medical intervention, i.e., induction, forceps, section etc.
(9) I had a swift and speedy labour.
(10) I felt well supported by my partner during labour and birth.
(11) I was encouraged to hold my baby for a substantial amount of time after birth.
(12) My birth experience was considerably different to what I intended.
(13) I had the same midwife throughout the entire process of labour and delivery.
(14) I felt that the delivery room was unthreatening and comfortable.
(15) I felt very anxious during my labour and birth.
(16) I felt out of control during my birth experience.
(17) I felt it was better not to know in advance about the processes of giving birth.
(18) I was not distressed at all during labour.
(19) I felt mutilated by my birth experience.
(20) My baby was avoidably hurt during birth.
(21) The staff provided me with insufficient medical care during my birth.
(22) I had a natural labour, i.e., minimal medical intervention.
(23) I thought my labour was excessively long.
(24) I felt well supported by staff during my labour and birth.
(25) I was separated from my baby for a considerable period of time after my birth.
(26) My birth proceeded as I planned it.
(27) The staff communicated well with me during labour.
(28) The delivery room was clean and hygienic.
(29) Giving birth was incredibly painful.
(30) Labour was not as painful as I imagined.
Participants respond on a 5-point Likert scale based on level of agreement/disagreement with each of the statements placed, with a possible range of scores between 30-150. A score of 30 represents least 'birth satisfaction' and 150 most. • Strongly agree • Agree • Neither agree or Disagree • Disagree • Strongly disagree
To obtain a copy of the 30-BSS and marking grid contact Prof Caroline J Hollins Martin. Email: c.j.hollins-martin@salford.ac.uk

quantitatively validated by Hollins Martin and Martin and at end of process reduced to a 10-item-BSS [5]. Creating valid and reliable instruments is key to producing robust and meaningful data, with the objective of the present study to conduct a qualitative thematic analysis of childbearing women's comments written on the 30-item-BSS to explore their relationship towards validating birth satisfaction as measured by items on the scale. Items on the 30-item-BSS were initially developed from the literature, with three overarching themes recognized as representing birth satisfaction: (1) Quality of Care (QC) (8-items), (2) Women's Attributes (WA) (8-items), and (3) Stress Experienced (SE) (14-items) [3] (Table 1).

Post development, concurrent analysis was conducted to explore the qualitative content of the BSS [4]. Also, Confirmatory Factor Analysis (CFA) was used to validate its psychometric properties [5]. In response to the psychometric findings, the 30-item-BSS was reduced in size to 10-items, yet retained its three sub-scales: (1) Quality of Care (QC) (4-items), (2) Women's Attributes (WA) (2-items), and (3) Stress Experienced (SE) (4-items) (Table 2).

There remained some debate as to whether the three domains derived from judgments about the literature may not actually represent the direct experiences of the women themselves. Therefore, and to assess this, the objective of this paper was to analyse the content of written comments of (n = 115) participants who completed the 30-item-BSS. The objective was to identify whether the qualitative responses in anyway harmonized with experiences reported within the quantitative data, with the express aim of informing scales designed to measure birth satisfaction.

Method

A qualitative comparative thematic analysis by Boyatzis 1998 was applied to the written comments on (n = 115) completed 30-item-BSS and whether any themes produced correspond with birth satisfaction [6]. The survey data was collected in the UK between 2011-2012. Ethics approval was gained from the UK National Health Service (NHS) National Research Ethics Service (NRES) (study reference: 10/S1001/31).

Thematic analysis

Thematic analysis by Boyatzis 1998; Braun & Clarke 2006; Miles, et al. 1994 is a commonly used method for qualitative data because identifying and coding recurring patterns in a dataset, labelling and

Table 2: Items on the 10-item-Birth-Satisfaction-Scale-Revised (10-item-BSS-R) post psychometric testing by Hollins Martin and Martin (2014).

• - Quality of care provision (4-items) (Q3, 5, 6, 10) • - Women's personal attributes (2-items) (Q4, 8) • - Stress experienced during labour (4-items) (Q1, 2, 7, 9)
(1) I came through childbirth virtually unscathed.
(2) I thought my labour was excessively long.
(3) The delivery room staff encouraged me to make decisions about how I wanted my birth to progress.
(4) I felt very anxious during my labour and birth.
(5) I felt well supported by staff during my labour and birth.
(6) The staff communicated well with me during labour.
(7) I found giving birth a distressing experience.
(8) I felt out of control during my birth experience.
(9) I was not distressed at all during labour.
(10) The delivery room was clean and hygienic.
Participants respond on a 5-point Likert scale based on level of agreement/disagreement with each of the statements placed, with a possible range of scores between 10-50. A score of 10 on the BSS represents least 'birth satisfaction' and 50 most. • Strongly agree • Agree • Neither agree or Disagree
• Disagree • Strongly disagree
To obtain a copy of the 10-item-BSS-R and marking grid contact Prof Caroline J Hollins Martin. Email: c.j.hollins-martin@salford.ac.uk

clustering the patterns to enable analysis are important [6-8]. The study reported here drew primarily on the approach to analysis described by Boyatzis [6]. For Boyatzis thematic analysis (with reliability defined as consistency of judgment p.145) provides for methodological translation building conceptual bridges between two or more approaches to discovery.

Secondary data analysis

In the study reported here a secondary analysis; supplementary analysis of a pre-existing data set was undertaken. In her review of qualitative secondary data analysis, Heaton identifies five types of secondary analysis: supra analysis; supplementary analysis; reanalysis; amplified analysis; assorted analysis [9]. The study reported here conforms to Heaton's definition of supplementary analysis which she describes as 'a more in-depth investigation of an emergent issue or aspect of the data which was not considered or fully addressed in the primary study' (p. 38). As such supplementary analysis is more closely related to the analytical remit of the primary study extending understanding of the original work. It can include a retrospective interpretation or analytical expansion of earlier categories. In this study an opportunity was taken to use thematic analysis to analyse the textual comments made by respondents to the BSS. The textual comments represent a pre-existing data set derived from respondents' comments to questions asked in the BSS. Reworking this data set using thematic analysis is in keeping with the traditions of secondary data analysis where it is recognized that textual data can be analysed for purposes other than those for which they were primarily produced [9].

Participants

Participants were a convenience sample of postnatal women (n = 115), ages 16-50 years, who were in their first 10 postnatal days and who had experienced a normal pregnancy and delivered a healthy infant at term (37-42 weeks). All participants were ethnically UK in origin and at the time of the study resided in the West of Scotland.

Design

The items on the 30-item-BSS were scored on a 5-point Likert scale based upon levels of agreement or disagreement with the 30 statements. Underneath all 30 items a space for the participant to add their written comments. An example is provided:

(24) I felt well supported by staff during my labour and birth

Strongly agree	Agree	Neither agree or Disagree	Disagree	Strongly disagree
5	4	3	2	1

Comments_____

Note: The scores are just for illustration and are not shown in the actual questionnaire.

Data analysis

Boyatzis 1998 identifies three approaches to thematic analysis: (1) theory driven approach (here the themes are derived from a prior epistemological framework or theory), (2) prior research driven approach (here the data are coded according to a coding framework developed in an earlier study), and (3) data driven approach here the themes are inductively derived from the data. In this study a data driven approach was used which consists of the following stages:

1. Deciding on sampling and design issues
2. Selecting subsamples
3. Reducing the raw information
4. Identifying themes within subsamples
5. Comparing themes across subsamples
6. Creating a code
7. Determining the reliability
8. Applying the code to the remaining raw information
9. Determining validity
10. Interpreting results, Sampling and design issues

The comments written by participants were transcribed by the second author and sent to the first author for analysis. The first author was blind to the content, the underpinning literature, concurrent analysis, and domains embedded in the 30-item-BSS. So, although data collection was structured by the questionnaire, the thematic

Table 3: A picture of participant 75 (P75) birth experience based on comments made whilst responding to questions on the 30-item-BSS.

Thought the pain would have been worse and would want more pain relief (P75).
Apart from one break (P75).
Pain got sore after a few hours and asked for gas and air. Felt I coped well through the contractions without pain relief (P75).
Midwife very good - she encouraged me to use birth pool for my back pain which was a great help with no pain relief (P75).
It was painful at the time but after the birth felt good and in control. Thought the pain would have been a lot worse (P75).
At the final stage the pain was sore (P75).
Baby was 3 weeks early - hadn't done my birth plan yet (P75).

Table 4: Continuum of classifications and categories of women's birth satisfaction.

(1) Exceptional
Categories
(1a) Considerably better than planned by the mother.
(1b) Good management of planned and known special needs of mother/baby.
(2) Good
Category
(2a) Goes according to plan with appropriate pain relief and no interventions/Planned interventions (e.g., planned Caesarian section)/Patient/family centered and supportive care provided.
(3) Satisfactory
Categories
(3a) Birth too quick/Birth progressed too quickly to follow plan, give appropriate pain relief, or to explain events, but situation recognized by maternity staff and parents.
(3b) Poor pain control/episodes of distress, but supportive patient-centered maternity staff.
(3c) Has complications, e.g., tear, episiotomy, ventouse, induced, section, distressed baby, mother distressed/Situation well managed and recognized by mother and maternity staff, with patient-centered supportive care provided.
(4) Unsatisfactory
Categories
(4a) Birth progressed quicker than staff anticipated/Mother/parents not listened too/Situation not recognized by maternity staff.
(4b) Situation, progression, complications/interventions not well managed by maternity staff creating distressed parents who feel unsupported/Pressure on maternity beds and not able to access labour ward in a timely fashion/Complications arising.

analysis of the data was deliberately designed to be independent of the structure of the BSS.

Selecting subsamples and reducing raw information

The textual data were divided into responses from Primigravida (P) and Multigravida (M) women. Each statement was tagged with a number to anonymize each participant and P (for primigravida) plus the number and M (for multigravida) plus the number are used throughout the article to label all respondents. All comments written by one individual respondent were grouped together to create an overview of her birth experience that was blind to her scores attached to the scale. To example a 'picture', the grouped data of Participant 75 (P75) can be viewed in table 3.

Out of (n = 288) women who participated in the 30-item-BSS, (n = 115) provided sufficient narrative to build up a comprehensive overview of their birth experience for the purposes of analysis.

Identifying and comparing themes with subsamples

The respondents' comments created relatively short pieces of textual material. The thematic analysis of short textual pieces of data is recognized and according to Boyatzis can mean that steps 4 and 5 can be carried out concurrently rather than sequentially as happened in this analysis. Following the development of the 'narrative' experiences, a line-by-line inductive thematic analysis of each participant's birth experience was undertaken. The relatively small size of each respondents' data set but large number of respondents meant that themes were relatively easy to identify and were fairly common across the data set and included: pain, staff response to pain, staff interactions with respondent, preparation for and expectations of birth experience, prior birth experiences of multigravida respondents, comparison of expectations and reality, role of partner, environment.

Creating codes

As table 3 demonstrates, coding these themes required a link back to the respondents' narrative in order to maintain data integrity in relation to the respondents' birth experience. So although respondent P75 experienced pain, she also expressed a sense of control and felt well supported. The coding frame (Table 4) was created from the thematic analysis as a means of coding the themes while maintaining integrity with the respondents' experiences as expressed within the narrative picture. Boyatzis describes how when developing a coding frame, it is necessary to write, rewrite, or construct a set of statements that differentiate groups or subgroups within the data [6]. He describes how it may be necessary to edit, rewrite, or reconstruct each statement of a preliminary theme to produce statements of exclusions in the form of rules for applying the theme to the raw material. The aim is to create codes that are clear, discrete and parsimonious. To achieve this, Boyatzis asserts that framing a theme and converting it into a code requires the researcher to keep the research objective or phenomena in focus [6]. The themes derived from the data were refined using constant comparative analysis to develop the statements constituting the coding frame (Table 4). This process resulted in development of the continuum of birth satisfaction that ranges from high to low.

Data Analysis

The satisfaction classifications were refined using thematic analysis of individual participants' birth experiences as a whole through this process the early coding frame descriptors were developed and refined until it was possible to discretely allocate each woman's experience into a distinct satisfaction category. For example, data from Participant P75 (Table 3) was coded as (2) Good, because, although she experienced pain, she considered that she was well supported, felt in control, and was provided with pain relief upon request. Also, no complications or interventions were mentioned in the data.

Similarly, the experiences of Participant M347 were coded as (4) Unsatisfactory (Category 4b), because she was unable to obtain an

epidural and suffered increased pain as a consequence. Otherwise she described the midwives as 'excellent':

Midwives were excellent, but due to room shortages I was unable to get epidural. When room was available it was too late. This caused great distress (M347).

The comments provided by Participant M292 also illustrate how constant comparative analysis was used to derive the coding system. M292 described her birth experience:

I felt fully supported. I was relaxed and able to enjoy the experience (M292).

The midwife followed our birth plan exactly. We felt our views and wishes were fully respected (M292).

With the exception of stitches I received, the birth experience left me unscathed (M292).

My birth plan was respected fully (M292).

The experiences of Participant M292 contributed to the development of the coding (2) Good. Even though stitches were required, M292 indicated that her needs and wishes were fully met during labour:

My partner and I could not have been happier with the support we received (M292).

My birth experience for my second child was entirely different to my first child, which would have been on the opposite end of the scale. I expected a horrendous experience and felt anxious prior to delivery. I had not expected such a positive experience where I felt fully in control and supported by midwives. My birth plan was respected fully (M292).

The statements of Participant M292 contributed to the development of the coding for (1) Exceptional care. In the case of M292, the woman perceived that she had received care that went well beyond her expectations, and as such was coded as having an exceptional level of birth satisfaction. It was also clear that Participant M292 was profoundly influenced by a prior poor birth experience and so her expectations were possibly lowered. In addition, Participant M292 received stitches, which she indicated was an anticipated intervention. Whilst developing the code for (1) Exceptional, the experiences of M292 contributed to developing the associated descriptors of 'mother's plans for care', as opposed to 'expectations from previous experience'.

Likewise, Participant M248 contributed to the coding of (3) Satisfactory (Category 3c). Participant M248 was extremely positive about the care she received (describing it as fantastic), with a planned caesarean section resulting in her experience being coded as (2) Good. In addition, Category (2c) was ascribed because Participant M248 experienced postoperative discomfort and she had an allergic response to the iodine used, both of which were unpleasant. Her comments were as follows:

Anxious about theatre. Great staff but unpleasant birth (M248).

Fantastic service (M248).

Not distressing but unpleasant (M248).

Discomfort afte rwards. Had allergy to iodine used (M248).

Fantastic care throughout (M248).

Planned section (M248).

In some cases a classification was made on very little data:

The care I received from midwives was 1st class (P12).

In absence of any additional information from P12, her birthing experience was coded as (3) Good.

Table 5: Explanatory variables that influenced birth satisfaction.

Lack of confidence in ability to deliver (i.e., nervous or anxious).
Looked to maternity unit staff for expertise and to build confidence.
Had no expectations of how the birth would progress.
Had a different expectation to what actually happened.
Wanted to be left alone to get on with it.
Had the labour they wanted.
Had a clear birth plan/informed decision making .
Was upset by deviation from birth plan.
Ante-natal preparation/previous experience.
No preparation.
Previous bad birth experience.

Table 6: Number of participants in each classification and category.

Classification	Category	Primigravidas	Multigravidas	Total
Exceptional	(1a)	0	1	1
	(1b)	2	1	3
Good	(2a)	14	25	39
Satisfactory	(3a)	1	6	7
	(3b)	8	4	12
	(3c)	22	14	36
Unsatisfactory	(4a)	6	9	15
	(4b)	2	0	2
Total		(n = 55)	(n = 60)	(n = 115)

All remaining themes from the initial line-by-line analysis of participants' experiences that did not pertain to birth satisfaction were coded as explanatory variables that influenced birth satisfaction. These have been captured in table 5 and are not further discussed in this paper.

Findings

In total (n = 228) postnatal women completed the 30-item-BSS (110 primigravidas/118 multigravidas). From this total (n = 115) participants (55 primigravidas/60 multigravidas) wrote free text comments on their questionnaire sufficient to write a 'picture' analysis akin to the one exampled in table 3. This data was subsequently analysed, with each respondent categorized into one of the four classifications based upon the definitions that follow. To view the number of participants in each classification (Table 6).

Data Supporting Classification of Care as Unsatisfactory

Women's experiences coded as Unsatisfactory were based upon reports of not being listened to, particularly when changes in progression of labour were not clearly explained by staff. The reports of Participant P133 example this:

Ventouse and episiotomy (P133).

Baby was delivered by ventouse due to complications (P133).

Had to be induced. Full extent of what that involved was not explained (P133).

Reports of 17 participants were classified as (4) Unsatisfactory (8 primigravidas/9 multigravidas). Only 2 primigravidas were classified as (4) Unsatisfactory (Category 4b), with distinction made between Category (4a) and Category (4b) based upon experiences of women trying to gain access to the maternity unit or delivery suite in a timely fashion. The comments of Participant M1165 illustrate this:

As I have been through this before, I knew how quickly things were progressing. However I believe the staff did not believe me, especially when they offered me paracetamol for pain relief. When I eventually got to the delivery suite, just in the nick of time, the staffs there were very friendly and helpful (M1165).

In contrast, (4) Unsatisfactory (Category 4b) related to care provided during labour, with the comments of Participants M604 and M594 illustrating this:

Continually asked for pain relief (M604).

Not clear on why I could not get further pain relief (M604).

They had no birth suite available or pain relief until ten minutes before delivery (M594).

Data Supporting Classification of Care as Satisfactory

In total (n = 55) participants 'pictures' were classified as (3) Satisfactory (31 primigravidas/24 multigravidas). Satisfactory care was divided into three discrete categories:

Category (3a)

Category (3a) describes situations in which the birth progressed much quicker than was anticipated, with no time for regular support provision, such as pain relief or explanations about progress. These situations were acknowledged by both staff and women as the unpredictable nature of progression of events that sometimes happen. The following comment by Participant P706 illustrates this point:

The birth was so quick during the delivery suite that there was no time, but I was happy with all the decisions made (P706).

In total, 7 participants (1 primigravida/6 multigravidas) response 'pictures' were coded as (3) Satisfactory (Category 3a).

Category (3b)

Category (3b) describes situations, in which care provision was reported as good, yet pain-relief was insufficient and/or the woman became distressed or felt out of control. The following comment by Participant P52 illustrates this point:

The care I received during and after my labour was second to none. I found labour incredibly painful. However thanks to midwives/staff I felt as relaxed as possible in a distressing situation and well looked after (P52).

In total, 12 participants (8 primigravidas/4 multigravidas) response 'pictures' were classified as (3) Satisfactory (Category 3b).

Category (3c)

Category (3c) describes situations where care given was supportive and informed, yet an unplanned intervention arose that caused distress. The comments of Participants P176 and P177 illustrate this point:

The service I received from all the staff was outstanding. I couldn't have asked for it any better...I had a very bad tear and needed quite a lot of stitches (P176).

Required emergency section (P177).

In total, 36 participants (22 primigravidas/14 multigravidas) response pictures were classified as (3) Satisfactory (Category 3c).

Data Supporting Classification of Care as Good

Care defined as (2) Good was categorized as labour proceeding according to plan, with appropriate pain relief and no unanticipated interventions. Women who experienced pain, but opted for natural childbirth were categorized as (2) Good when they had no complications and opted for no pain relief. Comments of Participant M605 illustrate this point:

I felt I didn't cope well with the pain (home birth) (M605).

Made my own decisions within my own environment (home birth) (M605).

Participants' comments that follow were also classified as (2) Good, acknowledging that the style of data collection limited our enquiry:

I found it very rewarding and worth every minute (M801).

No intervention was needed (M801).

Care was great (M576).

No medical interventions (M576).

Staff ensured I was comfortable at all times and had access to pain relief as required (P1106).

A number of mothers described their care as good, with no interventions required other than stitches (e.g., Participant M292). Where the tears werer was excessive or caused pain and distress, the participants' 'picture' was moved from the (2) Good category to (3) Satisfactory (Category 3c). In total, 39 participants (14 primigravidas/25 multigravidas) response 'pictures' were classified as (2) Good.

Data Supporting Classification of Care as Exceptional

Exceptional care was sub-divided into two categories:

Category (1a)

Category (1a) referred to care that meets total criteria for (2) Good, with supplementary comments to buttress that care provision was notably high quality and/or beyond expectations. The comments of Participant M378 illustrate this point:

I was encouraged to remain in the birthing pool holding my baby for as long as I needed and wanted and then further skin to skin nursing with no pressure to break the pattern (M378).

I arrived at maternity unit at shift change therefore 1 midwife started with me and then very smoothly another midwife arrived and very quickly engaged with me and my situation (M378).

I was in the birthing pool room throughout (M378).

The midwifery staff were fantastic, the atmosphere was relaxed unhurried and involved myself and my husband in all decisions. We were encouraged to cherish every moment following the birth of our 3rd daughter (M378).

In total, 1 participant (0 primigravidas/1 multigravida) response experiences wereclassified as Exceptional (Category 1a).

Category (1b)

Category (1b) was classified as care being (2) Good, plus staff accommodating a special need. Participant M308 comments illustrate this point:

I carry Strep B and needed medication. Staff ensured I received sufficient amounts to ensure a healthy baby (M308).

In total 3 participants (2 primigravida/1 multigravidas) response experiences were classified as Exceptional (Category 1b).

Discussion

Data indicates contradictions inherent within individual women's experiences, which imply that measuring birth satisfaction can be complicated. As Bertucci, et al. report, some respondents were satisfied with some aspects of their care at the same time as being unsatisfied with others [10]. Consequently, different dimensions on a scale require to be captured on any continuum. These contrasting elements also make the Likert scale underpinning items on the BSS an appropriate response format.

The domains of the 30-item-BSS; Quality of Care (QC) (8-items), Women's Attributes (WA) (8-items), and Stress Experienced

(SE) (14-items) (Table 1), appears to independently align with the categorization of birth satisfaction derived from this qualitative data.

The quantitative data is extremely useful in exploring woman's birth experiences, this has been demonstrated by the validation of the 30-item-BSS, but data were analysed through numerical comparisons and statistical inferences, whereas in this study data were analysed through themes from respondents own words. It could be argued that used in harmony the use of quantitative and qualitative data builds a more complete depiction of the birthing experience. For instance, Question 21 on the 30-item-BSS asks (Q21) "…the staff provided me with insufficient medical care during my birth…". This item reflects classification of care as (4) Unsatisfactory. With similarity, Questions 24 and 27 asks (Q24) I felt well supported by staff during my labour and birth, and (Q27) The staff communicated well with me during labour. These items relate to the mother feeling supported during labour, with this a key differentiator in classifying experience of care provision as (4) Unsatisfactory and (3) Satisfactory during analysis of the qualitative data. This point is also reflected in two other birth satisfaction scales [1,10].

Furthermore, Question 8 asks: (Q8) I received a lot of medical intervention, i.e., induction, forceps, section etc. This item relates to the extent of medical intervention during labour, which is a key differentiator between (3) Satisfactory and (2) Good in the qualitative analysis of this study, where good care was identified as relating to minimal or planned medical interventions.

Hence, the decision to use inductive categorization of women's experiences into four classifications of care has helped us gain insight into understanding how results in fact relate to birth experience. For example, from a clinical perspective, exceptional care could be defined as heroic interventions that saved mother and/or baby. Whilst this might be (1) Exceptional care provision, it does not provide an appropriate benchmark for exceptional birth satisfaction. The categorization of birth satisfaction in the analysis of women's comments given here, suggest an approach to care that is supportive and has minimal intervention, which reflects the recognized guidelines for best professional practice [11].

The domain Women's Attributes (WA) also formed an important intervening factor in mediating women's interpretation of their birth experience. The women in this study expressed a wide range of expectations and personal preferences, some of which stood in opposition to each other. For instance, some women would have liked complete control, whilst others wanted the maternity staff to direct them during labour. Some women wanted to be left on their own, whilst others preferred to have support provided. Such attributes clearly influence women's responses and ought to be considered when interpreting data.

Meyer identified constructs of control during childbirth, which help both women and midwives develop common understandings of expectations and realism about possible levels of control [12]. For example Lally, et al. identified that some women have unrealistic expectations about pain they will experience during labour and what they consider will be effective methods of pain relief [13]. This idealism suggests that women require to be honestly prepared for the actualities of labour. Control is viewed by both midwives and women as a key construct of birth satisfaction [14,15], with findings presented in this paper indicating wide-variation in women's expectations of what constitutes this concept.

Limitations of the Research

The approach used in this study has some strengths and limitations. The main strength is that the qualitative data appears to independently align with findings reported in the 30-item-BSS [3]. We were also able to independently assess whether additional questions would be required to increase the validity and reliability of the BSS. The conclusion made by the authors is that as a whole the written comments raised no new points for assimilation into the scale. This may be because the data in the main was structured by the questions on the scale, with an opportunity to include supplementary qualifying textual comments at the end of each question. Out with, the process of analysis applied permitted an integrated perspective that scrutinizing individual questions does not permit. In addition, a complete view of all participants' ideas was not captured in the data, with some providing sparse data and others writing effortful quantities of rich text. Nonetheless, these criticisms are bolstered by a sample size of (n = 115) participants who actually took time to write in the comments sections, with the vast majority of data coded to one of the derived classifications (Table 4).

The main limitation is the source of the data, which was structured by the BSS questionnaire and therefore did not reflect the totality of the women's birth experiences from an emic perspective that a semi-structured interview may have gained. The questionnaire shaped the range of topics to which the women responded. The responses were brief and lacked the depth often associated with qualitative research. To counter this 115 responses were analysed which is a relatively large sample for qualitative research.

By using the work of Boyatzis and Heaton we have demonstrated how the literature on thematic analysis has evolved to encompass a wide variety of epistemological positions [6,9]. In this article the focus is on using qualitative methods to develop a cumulative knowledge base in relation to research phenomena by reworking a qualitative data set and developing an analysis to inform current understanding and further test of measurement tools in future research. An in-depth qualitative analysis of women's birth experiences using methods such as interviews is always valuable, but as Boyatzis points out, knowledge development requires analytic methods which bridge the gaps between distinct methodological approaches [6]. Thematic analysis, as used here, provides one such bridge. A potential further limitation is the potential impact of respondents reflecting on the BSS items and this influencing the construction of their accounts of birth experience and satisfaction. However, the potential impact of this is likely to be minimal, given that the development of the original version of the BSS came directly from a thematic analysis of the extensive literature in this area.

Allocating participants comments into satisfaction classifications and categories to test robustness of the scale reflects an analysis informed and standardized by clinical knowledge that relates to the actual event of labour and not its subsequent or on-going consequences. One example of a subsequent consequence is provided by Rathfisch, et al. who described the adverse effects of perineal trauma obtained during childbirth and its potential long-term effects on postpartum sexual function [16]. Given the subjective interpretation of satisfaction women who have experienced perineal trauma might subjectively rate their birth experience as highly satisfactory in spite of such an unfortunate incident [17]. Perhaps a debate is required as to whether patient outcomes are an incorporate part of birth satisfaction in the longer term, or whether it is a short-term evaluation of the actual birthing event, with the scale devised to measure the latter. Either way, robust measurement of women's birth satisfaction is allied to the concept of receipt of care based upon best-evidence.

Conclusion

The analytical processes used in this paper were designed to develop an understanding of birth satisfaction that recognizes both subjective interpretation of experience and the cumulative evidence-base necessary to support improving practice. The purpose was to thematically analyse the qualitative responses to questions comprising

the 30-item BSS questionnaire, to identify whether the qualitative responses in anyway harmonized with experiences reported within the quantitative portion of the 30-item-BSS. By doing so, results have reinforced the findings reported the BSS [3]. These findings add to the growing evidence for the valid nature of the BSS, with two versions available for use in projects intended to evaluate childbearing women's experiences of childbirth:

(1) The psychometrically valid and reliable 10-item-BSS from which scores can be correlated with other validated measures (e.g., pain, depression, self-efficacy scales). The 10-item-BSS is embedded in the 30-item-BSS.

(2) The qualitative 30-item-BSS designed to assess individual women's experiences for purpose of debriefing before counselling or prior to in-depth qualitative work.

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