

Why undertake pilot work in a qualitative PhD study? Lessons learnt to promote success

Nurse Researcher

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Introduction

Pilot or feasibility studies serve an important function prior to a main study (Halberg 2008). Research methods and protocols can be tested, pre-empting future difficulties and enabling adjustments (Kim 2011). However, pilot studies are not always published (Arain *et al* 2010) despite the potential to contribute to our understanding of research (Secomb and Smith 2011). Reference to pilot study work is often limited to a cursory one-line mention in published papers, and the lessons learnt and experiences gained remain unavailable to the wider research community. Publishing pilot work can provide important information to other researchers (Van Teijlingen and Hundley 2001) and prevent further resources being spent on studies that are not viable (Thabane *et al* 2010). Publishing information regarding pilot studies is essential for shared learning and might not necessarily relate to the findings themselves as the results “*may not be meaningful and have not been reported, (but) the outcomes and experiences are*” (Secomb and Smith 2011 pg. 35).

The terms ‘pilot’ and ‘feasibility’ have been used interchangeably (Van Teijlingen and Hundley 2001), and sometimes erroneously (Thabane *et al* 2010) within the literature

with varying definitions (Arain *et al* 2010). According to the NIHR Evaluation, Trials and Studies Coordinating Centre (NETSCC), a pilot study can be defined as a mini version of the main study used to test whether the mechanisms of the main study would work as planned (NETSCC 2014). In contrast, feasibility studies focus on study parameters such as clinician willingness to recruit, time required for data collection and analysis, outcome measure design, study compliance and adherence (NETSCC 2014). Arnold *et al* (2009) prefer not to use the term feasibility at all, differentiating between 'pilot work' (background work that informs future research); a 'pilot study' (which has specified objectives and methodology) and a 'pilot trial' (a stand-alone study including randomisation). With variability in usage of terms, publishing the detail on what actual work was undertaken becomes important to inform others with the research community and "*every attempt should be made to publish*" (Thabane *et al* 2010 pg. 6).

Pilot or feasibility studies are common in quantitative research (Arnold *et al* 2009) and are increasing being reported in studies using qualitative approaches (Sampson 2004, Kim 2011, Secomb and Smith 2011). They can provide a clearer understanding of the topic under investigation and explore procedural elements of a study (Jessiman 2013). For novice researchers, they can provide engagement in the practicalities of research activity as a means to develop understanding and experience (Kezar 2000). Thabane *et al* 2010 argued that there is an ethical as well as scientific obligation to publish pilot work and although referring to phase III trials, this obligation should equally apply to those working within a qualitative framework.

This paper is concerned with reporting the benefits of undertaking a pilot study for qualitative researchers detailing the experiences gained, the lessons learnt and subsequent changes to the main study. This was undertaken as part of a PhD that sought to explore newly qualified nurses' perceptions of culturally competent practice. There are numerous potential reasons for undertaking a pilot (Van Teijlingen and Hundley 2001, Arain *et al* 2010) and this study had four stated objectives (Thabane *et al* 2010). First, the pilot sought to find out whether the planned recruitment approach would generate volunteers (Secomb and Smith 2011). Secondly, to test out the tools for collecting data in practice to ensure that they elicited the type and range of responses required (Van Teijlingen and Hundley 2001). The third reason was to explore procedural elements, primarily whether email and telephone rather than face-to-face contact was effective for both communication and data collection (Jessiman 2013). The final reason was an opportunity to reflect upon personal skills and abilities as a researcher and explore self as part of a study using an interpretative phenomenological methodology (Kim 2011). As recommended by Arain *et al* 2010 and Thabane *et al* 2010, for each objective, decisions were made as to whether to proceed as planned, modify or change the approach in the final study. Data were collected between May and August 2014.

Key lessons learnt

Sample, recruitment and access

The pilot study sought to determine whether the planned recruitment approach would generate volunteers as recruitment can be challenging, especially with a volunteer sample (Berry and Bass 2012). Recruitment often necessitates a substantive amount of time and effort, for little return (Kaba and Beran 2014) and failure to recruit successfully has implications for study timelines (McCance and Mcilfattrick 2008), reliability and validity (Jessiman 2013). Prior to commencing recruitment, it was necessary to secure ethical approval. It is essential that approval is sought specifically for the pilot as the purpose, risks and benefits to participants are different to that of the main study (Thabane *et al* 2010). The implications of taking part must clearly be articulated in the study information sheet and consent forms so that potential participants can make an informed decision as to whether to participate or not. Approval for the pilot was secured to recruit final year pre-registration nursing students from a higher education institution not involved in the main study. Although approval had been obtained and contact was made with the relevant programme lead, communication was also required with a number of other faculty staff to ensure information was sent to eligible participants. Identifying the 'right' person proved to be the most important lesson learnt during this stage as this person might not necessarily be the programme or department lead. Key skills were needed to negotiate with potential gatekeepers and navigate bureaucratic systems (Kaba and Beran 2014), creating an open and on-going communication chain involving all

relevant people to facilitate access. For the main study, additional time was built into the recruitment timeline to allow for this.

Information was sent to potential participants via email and University's virtual learning environment (VLE). A reminder email sent two weeks later and this generated some but limited interest in the study (three expressions of interest). Generating enthusiasm and interest in a study is necessary to engage potential participants (Kaba and Beran 2014) and so with agreement of the programme director, the researcher gave a brief presentation during a timetabled module evaluation session to the cohort. This presentation introduced the main PhD study and outlined the purpose and implications of participation in the pilot study. Personalising the information via a formal presentation provided an additional impetus to recruitment securing five additional expressions of interest. Timing may also have been a pertinent factor as the information was initially circulated just prior to the cohorts' assignment submission date.

Eight expressions of interest were received in total. All participants were contacted by email and/or SMS (text) to clarify any issues arising from the study prior to completion of the consent form and data collection. Five people participated in the pilot study, one did not complete the interview although it was not known why. Mobile phone texts and email reminders were sent to the participant providing additional opportunities on alternative times and dates. However, as no response was received, further contact was deemed potentially intrusive and the participant was considered as withdrawn.

The key lesson learnt in terms of recruitment was that a more personalised and comprehensive strategy was needed (Secomb and Smith 2011). The main study approach was modified to include a formal presentation to be delivered at a time that was sensitive to participant demands (Harris *et al* 2008). Successful recruitment in a pilot study does not guarantee success in the main study however, testing out the approach reduces the likelihood of time and resources being invested in unsuccessful methods (Kaba and Beran 2014).

Data collection tools

A directed reflection and the topic guide for a semi-structured interviews was also tested out in the pilot to establish whether they were user-friendly and if re-phrasing or additional questions or prompts were needed. Participants were asked to complete the reflection in the form of a structured diary sheet and were then asked specific questions regarding its completion during the subsequent interview. In a directed or solicited reflection, the participant records their actions, thoughts and/or feelings at the request of a researcher (Clayton and Thorne 2000). They are used in conjunction with interviews as they provide the researcher with initial data on a specific topic or issue which can be explored through further discussion (Jackson *et al* 2008, Smith 2007). They can also provide participants with greater control over how their experiences are represented (Woll 2013). In this pilot study, the directed reflection was developed from existing literature and with the support of a Patient and Carer Reference Group. The directed reflection asked participants to describe a

recent interaction with a patient from a diverse background and detail their thoughts, feelings, actions and behaviour. Divided into sections, each section started with a question to direct or prompt the participant, for example, how would you describe your feelings during this event?

During the interview participants were asked specifically about readability and comprehension of the directed reflection. All responded positively, confirming that they did not find the completion of it especially problematic. Participants were familiar with the approach as they are commonly used in pre-registration nurse education to capture reflections on practice (Bulman *et al* 2012). Descriptions of practice and nurses' thoughts and reflections on that practice were generated however, the amount of information provided varied considerably. Some sections were detailed whilst others contained two or three word responses. Only minor amendments were considered necessary to the directed reflection prior to the main study and additional information was added in the introduction to guide participants'. The directed reflection would not be used in isolation (Jacelon and Imperio 2005) and the subsequent interview would provide an opportunity to address information deficits and clarify any ambiguities.

Upon completion of the directed reflection, participants were contacted to set up a suitable time and date for the interview. Telephone interviews were used as they facilitate access to busy professionals and geographically diverse populations (Harris *et al* 2008, Mealer and Jones 2014). They are a versatile, resource-efficient approach (Novick 2008) and can produce data that is comparable to interviews conducted face-to-face (Sturges and Hanrahan 2004). It had been estimated that the

telephone interviews would take between 30 and 40 minutes and the pilot study confirmed this as a reasonable expectation.

By undertaking the interviews, it was possible to reflect on the topic guide and although key areas did not require amendment, changes to the order and additional prompts were added. The topic guide had initially commenced with general questions about participants' current experience to ease the participant into the interview with discussion of the directed reflection placed in the latter part. This was changed as participants initiated conversation about the reflective piece at the start of the interview. This proved to be a simple and natural interview opener (Smith 2007) leading easily into further questions to encourage clarification and elaboration. A possible limitation to this was that in the subsequent discussion of cultural competence, the participant appeared to understand and interpret further questions within the same broad theme of diversity set by the reflection. It is important that participants' feel comfortable during an interview and conversation and dialogue is encouraged rather than imposed (Arthur *et al* 2014). Therefore, additional prompts were added to the topic guide so that if in the main study the participant stayed focused on one diversity characteristic, they could be encouraged to give examples from other diversity groups.

Undertaking the interviews also provided important experiential learning in a research method as well as an opportunity to consider the benefits and challenges of this approach. Scrutiny of the transcripts and re-listening to the audio of the interviews confirmed that participant pauses and silences had not always been responded to successfully. One of the key lessons learnt was how to manage

silences when conducting a telephone interview and verbalising encouragement and elaboration as non-verbal means (e.g. nodding, smiling) are not available (Trier-Bieniek 2012). The researchers' ability to communicate rapport with the participant can be limited by the lack of face-to-face contact (Novick 2008). This is a potential limitation of the telephone interview format particularly for researchers with little experience in this approach (Mealer and Jones 2014). Rapport can be improved when using telephone interviewing by ensuring that verbal contact (rather than email or text) had already been made pre-interview (Carr and Worth 2001, Sturges and Hanrahan 2004, Harris *et al* 2008) and so pre-interview phone contact was added to the main study protocol.

Procedural issues

The benefits and challenges of using email and/or text communication was also considered in the pilot study. Email was the preferred approach of the host institution and the usual means of communicating with the target group (Berry and Bass 2010, Mason 2014, Kaba and Beran 2014). Text appeared to be the preferred contact method of participants, they responded more quickly to a text, an approach shown to be effective in previous research (Berry and Bass 2010, Mason 2013). Both email and text contact was used throughout to encourage continued engagement in the study, although of the two, email was most effective when supplemented by a text. In relation to collecting data, email proved useful. The directed reflection was emailed to participants, who completed this electronically and then returned it. Of the five returned, four were returned within seven days and one within fourteen days following a text prompt. Only one of the five provided a handwritten version which

was then written up by the researcher and the original scanned and kept. All participants had access to a computer and email, and the data was provided in a format that did not require transcription and had no additional resource implications for participants (Novick 2008).

In the latter two interviews, text reminders were sent one day before and again ten minutes before the interview started and these proved invaluable in ensuring that interviews went ahead as scheduled. As a result of these experiences, some minor changes to the main study were planned. These included using email primarily for sending and receiving information and key documents and text for mainly engagement and retention. Although recruitment and data collection processes were the same for all participants, the time lapse between expression of interest, consent, completion of reflection and interview did vary. Another benefit of experiential learning was the ability to understand and acknowledge that participants' had other, more pressing demands upon their time and that engagement would vary and be dependant on individual circumstances.

Self

A journal and field notes (written and audio) were used to engage in personal reflection throughout the pilot study to explore personal assumptions and the influence of prior experiences (Rapport 2004, Hill 2006). Recording reflections provided a valuable data source in itself (Dickson-Swift *et al* 2007) and a useful reference point when re-examining the interviews. Reflexivity is a valuable tool within qualitative approaches it is however a skill that requires practice to develop

effectively (Jootun *et al* 2009) and the pilot was indispensable to this development. To aid reflection, questions and prompts were posed by the researcher within the journal to structure and guide the post (but not pre) interview reflections. Examples included; How well did I listen to what was said? Was I able to establish a good level of trust and rapport? Did the interview flow or was it stilted? Did I agree with them too readily or prompt too quickly curtailing elaboration? Did I clarify any ambiguity? Considering these questions encouraged personal insight into how well each interview was conducted and facilitated reflection upon how the interviews might be improved in the main study (Dickson-Swift *et al* 2007).

Listening to the audio recordings of the two interviews and examining the notes indicated that there were some challenges to address in subsequent interviews. It appeared that attention was divided between the interviewee, the interview topic guide and the recording equipment. The recording devices in particular had caused considerable anxiety and throughout two devices were used just in case one failed. Participants were texted ten minutes before the interview started to ensure that they were prepared however, upon reflection this notification was also important for the researcher. Sending the text acted as a sign for the researcher to be mindful of 'the space and place' (Gagnon *et al* 2015). The interview schedule and directed reflection were re-read, equipment tested and the physical area of the researcher prepared to minimise potential distractions and intensify focus. Undertaking a pilot study to experience research and develop personal skills and abilities can make a significant contribution to the main study (Sampson 2004). Competence and confidence particularly in relation to telephone interviewing improved with each subsequent

interview. In addition, the breadth and scope of personal reflection contained within the audio and written journal notes improved exponentially.

Conclusion

Undertaking a pilot study as part of a qualitative PhD enhances understanding of key research processes including access, recruitment and data collection. Personal development is enhanced and the learning experience impacts positively on researcher confidence and competence. Establishing key objectives for a pilot study enables the researcher to make decisions to whether these objectives were successfully met or not and refine and re-shape the main study as a consequence. Pilot studies remain poorly described in the literature despite the potential benefit of sharing insights into methodological and practical issues within qualitative research. By reporting on these insights and experiences, this paper adds to the small but growing body of work being shared within the research community on the value of pilot studies.

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