



Lessons Learned for Novice Researcher from a Qualitative Study of a Case on Continuous Ambulatory Peritoneal Dialysis

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ABSTRACT

Objective: The objective of this article is to discuss the lessons learned when novice researchers conduct a qualitative pilot study in healthcare involving patients at the end-stage of a renal disease who particularly use continuous ambulatory peritoneal dialysis therapy. **Methods:** A qualitative pilot study was applied and semi-structured in-depth interview with participants was conducted. **Results:** There are six lessons obtained from the pilot study. They include obtaining adequate knowledge of the research topic, recruiting the participants, choosing an appropriate data collection, building and gaining rapport with the patients, choosing the structure of interviews, as well as putting the questions in order and revising the questions. Some helpful approaches for novice researchers to consider include attending healthcare events, applying a qualitative study, and conducting individual interviews. **Conclusion:** Some lessons learned and insights are derived from conducting a qualitative pilot study which is useful for novice researchers to assess the feasibility of a planned or main study.

Keywords: Lessons learned, Pilot study, Novice researchers, Qualitative research, Healthcare, Continuous ambulatory peritoneal dialysis

INTRODUCTION

Definition of a Pilot Study

A pilot study is defined as a small-scale or mini version of a planned or feasibility study [1]. Through the pilot study, the researchers obtain several advantages, such as the possibility to evaluate the feasibility of the proposed or planned study, to assess the appropriateness of research protocol or instruments in a small sample, and to identify potential problems in the data collection [1,2]. "Pilot study can be classified into process, resource, management and scientific aspects. A process assesses the feasibility of the steps that need to take place as part of the main study. Resources deal with assessing time and budget problems that can occur during the main study. Management covers potential human and data optimization problems, such as personnel and data management issues. Scientists deals with the assessment of treatment safety, determination of dose levels and response and estimation of the treatment effect and its variance" [3]. Despite the advantages, there are some limitations of a pilot study, such as making incorrect assumptions based on pilot data.

In addition, there is no guarantee that a successful pilot study will be followed by the success of the main study [2].

Background of the Pilot Study

The end-stage of a renal disease (ESRD) or stage five of a chronic kidney disease is indicated by a decrease of individual function that is shown by a glomerular filtration rate (GFR) less than 15 mL/min/1.73 m³ [4]. At this stage, individuals have several options of renal replacement therapy (RRT), such as kidney transplantation and dialysis which is either hemodialysis (HD) or peritoneal dialysis (PD) [5]. Continuous ambulatory peritoneal dialysis (CAPD), as one of the PD therapy methods that uses the peritoneal membrane for fluid and solute removal, obligates the patients to perform self-management therapy at least four times in a day at home or at any clean premise. Although the number of patients using CAPD therapy is gradually increasing, a limited number of studies have been done on patient engagement between CAPD patients and their health care professionals. In preparing the main or planned study of CAPD patients' engagement, it is necessary to conduct a pilot study to obtain several lessons learned before executing the main study.

MATERIALS AND METHODS

In this study, lessons learned were obtained by applying a qualitative approach using in-depth interview. The interview was conducted in Indonesian language and took about one hour for each interview.

RESULTS

Lessons Learned

Conducting a pilot study that involves participants who are ESRD patients and using CAPD therapy for their kidney replacement therapy treatment has some invaluable lessons learned for novice researchers, especially if the researchers are neither doctors nor healthcare professionals or someone who has little knowledge about the therapy.

Obtaining Adequate Knowledge of the Research Topic

Understanding the existing knowledge of a research topic is essential because it helps to comprehend the current developments and contributes knowledge derived for future studies. In general, knowledge can be obtained from reading literature and theoretical concepts [1]. Besides reading the current literature, knowledge or understanding about a research topic can be gained by asking insight from those who are knowledgeable about the topic [6,7]. It argues that “an expert has technical, process, and interpretative knowledge that refers to a specific field of action, by virtue of the fact that the expert acts in a relevant way (for example, in a particular organizational field or the expert’s own professional area)” [8].

In this pilot study, even though one of the researchers was a former CAPD caregiver who had a chance to assist an elderly CAPD patient for several years, adequate knowledge of CAPD therapy is still necessary in order to understand the recent developments of such therapy. Besides observing and reading some journals, she looked for knowledgeable persons or experts on CAPD therapy. She met few nephrologists and peritoneal dialysis nurse or PD nurse who was familiar with CAPD therapy. From the discussion with the expert, it was understood that patients should consult first with a nephrologist and receive adequate information about several RRT with the consequences of each therapy. Besides consulting with a nephrologist, a CAPD patient usually met and consulted with a PD nurse to get more information about the therapy such as home dialysis requirements, procedures, and diet. Previous study had categorized three stages of CAPD patients: adaptation, stabilization, and acceptance phases [9].

Recruiting the Participants

In nature, CAPD therapy is different from HD therapy. HD patients go to hospital two or three times in a week for therapy, and they usually meet and know each other during the therapy. Meanwhile, CAPD patients routinely conduct self-therapy at home or at their premises. Thus, CAPD patients are less likely to visit the hospital, and CAPD patients rarely know each other as they do self-therapy at their own premises.

From the expert discussions, the researchers were informed that few events were held by CAPD therapy healthcare providers. The events were intended to familiarize potential or existing CAPD patients with the therapy. The participants of events comprised of CAPD patients, caregivers, or anyone who is interested in knowing about CAPD therapy. As an initial effort to know the patients or CAPD community, one of the researchers attended a CAPD seminar held by a CAPD therapy health care provider. The researcher was very fortunate to get acquainted with one of the CAPD patients, who had done CAPD therapy for more than three years and the patient was also an initiator and managed a CAPD whatsapp group, a social media forum of communication, which was based according to a certain area location. He was very receptive to add a new member to join the whatsapp group. In the event, the researcher also had the opportunity to meet with a PD nurse who had several years of experience in CAPD therapy. This PD nurse could be considered as a key informant because through an informal conversation with her, the researcher obtained additional insight about CAPD therapy, several nephrologists, CAPD patients, and associations that could be contacted for the purpose of the study. It is stated that “key informants are people that are particularly knowledgeable about the inquiry setting and articulate about their knowledge” [10].

For the purpose of this research, the researcher had made a phone call to a CAPD patient whom the researcher met in the event and managed a CAPD whatsapp group. The researcher explained in brief about the planned pilot study and invited him to participate in it. Fortunately, he was willing to participate and became the first participant in the pilot study.

Since the researchers had limited contact and looked for CAPD patients who had different years of therapy, the researchers applied a snowball sampling technique by asking the participants to recommend other individuals or CAPD patients to be sampled [11]. The first participant recommended one CAPD patient who had less than one year of CAPD therapy and who by chance was in the same whatsapp group with the researcher. The researcher then sent a whatsapp message to the second participant candidate, and it was followed by a telephone call in which the researcher explained in-depth regarding the pilot study theme. The candidate was very enthusiastic to be invited as a participant. However, there were several schedule postponements, because the participant was not in good health. From the discussion with the participants, the researcher was invited to join the bigger nationwide CAPD whatsapp group and suggested to contact a CAPD patient who was active in this whatsapp group and also approached potential candidates for other participants. From the participants, the researchers knew there was a community group of dialysis which was quite active to hold events to disseminate various ESRD treatments together with nephrologists and healthcare providers. All the participants were interviewed in regards to their experiences with their healthcare providers using CAPD therapy. The challenge was to find a convenient time and place to meet with the participants. The authors were aware that CAPD patients had to perform self-therapy four to five times a day at their premises. Therefore, the authors let the participants choose a convenient time and place. Some appointments were rescheduled a few times because some respondents were not in good health.

Choosing an Appropriate Data Collection

Qualitative research was chosen because the research helps to explore the central phenomenon from the participants [11]. There are several kinds of data collection in qualitative research: in-depth, open-ended interviews, direct observations, and written documentation [10]. An interview is one of the data collection techniques that is widely used in qualitative research [12]. An interview is defined as a professional conversation that has a structure and produces knowledge in which “interview knowledge is actively created through questions and answers and the product is co-authored by the interviewer and interviewee” [6]. In interviews, the conversation is asymmetric or not equal as the interviewer determines the topic, poses questions, and manages the interview situation. The interview can involve one or more participants and uses open-ended questions, which allows the participants to express their experiences or thoughts. Even though an interview is the most time-consuming, “one-on-one interviews are ideal for interviewing participants who are not hesitant to speak, who are articulate, and who can share ideas comfortably” [11]. One-on-one and face-to-face interviews were applied in this pilot study. There are several advantages of conducting one-on-one or individual interviews, such as it is easier for the interviewer to build trust and control the interview as per the interviewer’s interest [13].

Building and Gaining Rapport

The interview was set at a time and location that was convenient for the participants. It was challenging to set the right schedule for interviewing both the experts and particularly for the CAPD patient participants who had to do self-management therapy every four hours. Rescheduling happened because some of the experts had to go on business trips and a few CAPD patients were not in good health.

It is suggested that building and gaining rapport are important in interviewing, not only in creating a comfortable interview atmosphere, but also in listening and being interested in the interviewee’s explanation [14]. Especially in this pilot study in which the researchers mostly never met the participants before, the researchers had to build trust and engagement with the participants by introducing themselves, addressing the purpose of the interview and exchanging experiences about the topic before starting the interview [7,15]. Even though most of the interviews were controlled by the interviewer, having empathy and respecting the participants who had knowledge and experience in doing CAPD therapy was advisable. Before the interview started, the researchers also asked the participants to sign a confidentiality letter.

Choosing the Structure of the Interview

The interview structure can be categorized as structured, unstructured, and semi-structured interviews. Structured interviews require an order of pre-set questions to maintain consistency in multiple interviews. Furthermore, during an interview there is no improvisation needed. The choice of which kind of interview structure is adapted depends

on the research questions and data gathering. Unstructured interviews contain fewer pre-set questions and the interviewees have fewer restrictions or freedom to say. A semi-structured interview should be prepared as it has some pre-formatted questions with no strict rules as new questions may arise during the interview [12,13,16]. It was stated that a semi-structured interview has the purpose of obtaining descriptions in order to interpret the meaning of the described phenomenon [6]. This pilot study used semi-structured interviews as it was more flexible and allowed the interviewer to ask important new questions from the discussion. New questions might emerge during the conversation and improvisation is encouraged [13,12]. A semi-structured interview would give the opportunity to explore the perceptions and opinions of complex issues and probing for more information and clarification of answers [17]. It was revealed that in a semi-structured interview prompts and probes are utilized [7]. Prompts help the interviewer and interviewee keep on talking about something [14]. Several prompts' note to help the researcher is shown in Table 1. Meanwhile, probing questions are used to clarify the interviewees' responses by asking interviewees to elaborate their opinions [14]. For example, in this pilot study the probing was "you mentioned that the service providers have not given optimal services. Can you explain more about it?"

Table 1 Prompts

Questions	Prompts
Cognitive engagement How do you know about CAPD therapy?	Doctor
	PD nurse
	Other patients
	Other sources: books, Internet
Service Providers Who are the CAPD therapy service providers?	Doctor
	Hospital
	Pharmaceutical company
Platform What are the interaction platforms for patients and health care service providers?	Digital platform: Internet, website
	Non-digital platform: event

Putting the Questions in Order and Revision the Questions

As part of the interview preparation, the researchers had to develop interview questions that should be in line with the research questions. It is important to note that the research questions or theoretical questions are different from the interview questions [6,16]. Interview questions can be classified into six types: background/demographics, behaviors, opinions, feelings, knowledge, and sensory [10]. Further, it is suggested that questions should be put in order from non-sensitive to sensitive [14]. The non-sensitive questions can be placed in the beginning and the sensitive or difficult questions can be asked in the middle or close to the end. The question order also helps in establishing the relationship during the interview. In addition, the interview questions should be grouped into several topic categories [7]. In this study, the interviewer used Indonesian language and it began with easy questions such as the interviewee's background, including age and occupation. The questions were then followed by introductory questions like "Can you tell me why you use CAPD therapy?" The questions were developed based on the theory of consumer experience or engagement consists of cognitive, affective, and behavioral factors [18]. Therefore, the interviewees were asked to refer to the cognitive, affective, and behavioral aspects, such as what kinds of knowledge and skills they obtained from the CAPD therapy, as well as what emotional engagement and what kind of behavioral activities occur between the patients and the CAPD healthcare professionals. Additionally, the theory of co-creation refers to dialog, access, risks, and trust also helps in formulating and prompting interview questions [19]. Even though at the beginning the researchers had tried to put the interview questions in order, after the second interview the researchers had to regroup and revise the interview questions. During the interview sessions, the researchers sometimes had to repeat and reword the questions in order to improve the clarity as shown in Table 2.

Table 2 Revised interview questions

Original interview questions	Modified interview questions
Why do you use CAPD therapy compared with other therapies?	Can you explain why you use CAPD therapy?
Are there any CAPD therapy service providers except hospitals?	Can you indicate the CAPD therapy service providers?

DISCUSSION

Several reasons for researchers to conduct a pilot study were to evaluate the viability of a planned or full-scale study, to understand the recruitment methods, and to develop and test the research instruments [2]. This article provided insight for novice researchers from pilot study conducting in healthcare research. Since CAPD therapy is not widely known, to add to researcher knowledge on the topic, exploratory expert interviews were conducted. This type of interview helps the researcher to develop a clearer idea about the topic [8].

Since it was challenging to recruit participants to be interviewed, the researchers attended some events held by healthcare service providers and got to know patients who could potentially participate in the pilot study. Using personal networks through acquaintances' recommendations or snowball sampling and asking interested people to participate through websites or a mailing list which helped the researchers to get participants [20]. Furthermore, it is suggested that researchers should identify major community organizations or leaders or both who would be helpful in recruiting potential study participants to create atmosphere of "we" or togetherness with them [21]. It really worked in this pilot study, as one of the researchers had joined the whatsapp group of CAPD patients, and approached a few members and asked for their participation. Moreover, conducting one-on-one interviews facilitated the researchers to build trust amongst the participants and to get information that was personal and sensitive [13]. Prompts and probing were applied to keep the interview on track and to clarify the interviewee's explanation. Questions had to be modified in order to avoid any redundancy or confusion for the interviewee.

CONCLUSION

This article addressed the importance of pilot study. There were six lessons learned for novice researcher from this study including obtaining adequate knowledge of the research topic, recruiting the participants for this pilot study in which the researchers had to build close connection first with the key informants then the researchers had the opportunity to approach few key respondents, choosing an appropriate data collection, building and gaining rapport, choosing the structure of the interview, putting the questions in order and revising the questions.

These six lessons learned provided some insight and strategies for novice researchers to be considered when in the future conducting a main study or plan study.

DECLARATIONS

Conflict of Interest

The authors and planners have disclosed no potential conflict of interest, financial or otherwise.

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