

## CHAPTER 2

### Research design and methodology and measures to ensure trustworthiness

#### 2.1 INTRODUCTION

Chapter 1 briefly introduced the study. This chapter discusses the research design and methodology and measures to ensure trustworthiness. The researcher explored and described African women's experiences of both HIV/AIDS and cervical cancer, and developed guidelines for the support of women suffering from HIV/AIDS and cervical cancer.

#### 2.2 PURPOSE OF THE STUDY

The study wished to answer the question: How do African women experience the diagnosis of both HIV/AIDS and cervical cancer? The purpose of the study was to

- explore and describe African women's experience of both the diagnoses of HIV/AIDS and cervical cancer
- develop guidelines for the support of African women suffering from both HIV/AIDS and cervical cancer

#### 2.3 RESEARCH DESIGN

The researcher adopted a qualitative research design that was explorative, descriptive and contextual.

### **2.3.1 Qualitative design**

A qualitative research design was appropriate for this study because the aim was to understand and describe human experiences, namely what it is like to live with a diagnosis of both HIV/AIDS and cervical cancer. Furthermore, the study attempted to explain emotions as experiences lived by a person (Burns & Grove 1999:339). Rice and Eezy (1999:4) state that qualitative research methods are particularly relevant to public health because of the need to describe and understand people. A qualitative research design is useful in studying human action from the perspective of the participants themselves (Babbie & Mouton 2001:270). In this study a qualitative design provided an insight into how young African women make sense of their experiences of HIV/AIDS and cervical cancer. Human emotions or experiences are not easy to quantify or assign numerically therefore a qualitative approach was appropriate (Burns & Grove 1999:339).

### **2.3.2 Explorative design**

Burns and Grove (1999:339) state that a qualitative research approach is suitable for exploring the depth and richness inherent in phenomena. According to Brink and Wood (1998:308, 309), the use of an exploratory research design helps the researcher identify and describe a problem area not studied before or where little is known about the phenomenon. Therefore this design was used to explore the experience of African women diagnosed with both HIV/AIDS and cervical cancer.

### **2.3.3 Descriptive design**

- The goal of descriptive research is to describe a phenomenon under study. The researcher described what was observed during fieldwork. Talbot (1995:229) states that a descriptive design is frequently used when very little is known about the topic under study or when the researcher wants to explore a research question.

#### **2.3.4 Contextual design**

When the experiences of African women diagnosed with both HIV/AIDS and cervical cancer had been described, it was important to contextualise the findings. Babbie and Mouton (2001:272) state that qualitative research attempts to understand events, actions and processes in their own context. Furthermore, the goal is to describe and understand events in the concrete, natural context and setting in which they occur.

### **2.4 RESEARCH METHODOLOGY**

In order to explore these experiences, the researcher used the following research methods, starting with ethical requirements.

#### **2.4.1 Ethical considerations**

Ethical issues and standards were critically considered in this research project, the main aim was to do good for the research participants and avoid any harm (Streubert & Carpenter 1999:31).

- **Institutional permission to conduct the study**

In order to commence on the experiences of African women with both the diagnoses of HIV/AIDS and cervical cancer, it was very important to secure permission from the chief

executive officer of the hospital (Johannesburg Hospital) and the head of the department (radiation oncology). A letter explaining the purpose of this study was sent to the chief executive officer of the hospital and head of the department (see Annexure 1). The three basic principles of autonomy, beneficence and justice, relevant to conducting research involving human subjects were observed in this study (Burns & Grove 1999:157; Streubert & Carpenter 1999:314).

- **Autonomy**

This is the principle of respect for the research participants (Burns & Grove 1999:157). To ensure the application of this principle the purpose of the research was explained to the research participants and the importance of participating in this project. Women to be treated with respect and dignity. Informed consent was obtained from the research participants and participation in the investigation was voluntarily, they had freedom to participate or not to participate in the research (Streubert & Carpenter 1999:314).

- **Beneficence**

Apart from the principle autonomy, the researcher also applied beneficence to ensure that there is no physical or mental distress, harm, any danger to the participants (De Vos, Strydom, Fouche & Delport 2003:74). This principle encouraged the researcher to do good and not harm the research participants (Burns & Grove 1999:157).

- **Justice**

Research participants should be treated fairly and receive what they are due or owed (Burns & Grove 1999:165). This is supported by Miles and Huberman (1994:290) who are of the view that the researcher need to ensure a reasonable, non-exploitative, and carefully

considered procedures and their fair administration, fair distribution of costs and benefits among the research participants. This means that the researcher will not withhold any information obtained during the research project. Burns and Grove (1999:165) also state that the research report need to show that selection of research participants and their treatment is fair. The researcher ensured fairness in this project by giving assurance. The researcher assured the research participants, that is, women with both the diagnoses of HIV/AIDS and cervical cancer that confidentiality and anonymity will be upheld (Streubert & Carpenter 1999:314). Burns and Grove (1999:163) is of the view that the data collected during the research project to be kept confidential and anonymity will exist when the participants' identity is not linked with their responses.

#### **2.4.2 Population and sampling**

Once the ethical considerations have been fulfilled, the researcher identified the population. De Vos, Strydom, Fouche and Delport (2002:198-199) define a population as the total set from which the individual or units of the research project are selected. In this research project the population was African women who were attending the Johannesburg and Hillbrow hospitals (Department of Radiation Oncology) for radiation therapy.

#### **2.4.3 Sampling criteria**

A researcher has to select a portion of a population referred to as sample. A sample is a subset of measurement selected from a population in which the researcher is interested or which the researcher want to study (De Vos et al 2002:199). Sampling criteria is the characteristics of the informants for inclusion in the target population (Burns & Grove 1999:227) and it includes:

- **Gender**

Participants were African women, as the study findings were well understood in accordance with this group.

- **Age limitation**

Participants were African women aged between 29 and 39 years and 39 and 49 years.

- **Language**

The ability to speak one of the African languages or English was a strong recommendation.

The participants attended the Hillbrow/Johannesburg Hospital for radiation therapy treatment.

The participants gave permission to audio-taping of interviews after the eligibility criteria had been determined.

#### **2.4.4 Sampling technique**

Once the sample for inclusion was defined, the researcher decided on the sampling technique to be employed in the research project. In this project, purposive sampling was used. Purposive sampling "is used most commonly in phenomenological inquiry" (Streubert Speziale & carpenter 2003:67). Patton (1990) in Streubert Speziale & Carpenter (2003:67) is of the view that "the logic and power of purposive sampling lies in selecting information-rich cases for study in depth. Information-rich cases are those from which one

can learn a great deal about issues of central importance to the purpose of the research, thus the term purposive sampling". This type of sampling technique is based mainly on the judgement of the researcher, in that, a sample selected consist of elements that contain the most characteristics and representative of the population (De Vos et al 2002:207). The number of participants in this project is not that important. The criterion that was used is saturation of information. Saturation of information occur when the researcher begins to hear the same thing repeatedly being reported, and no new information coming out during the interview process (De Vos et al 2002:300).

#### **2.4.5 Data collection**

In-depth semi-structured phenomenological interviews were used for data collection. A qualitative research approach requires that the data collected to be rich in description of the phenomenon under study (De Vos 1998:253). The purpose of this research project was to explore and describe the experiences of African women with both the diagnoses of HIV/AIDS and cervical cancer. In line with the purpose of the study, in-depth semi-structured interviews were chosen for this study because with the use of this interviewing technique, the informants were able to express themselves, and it was easier to understand the phenomenon under investigation (De Vos 1998:311). The methods of data gathering used in this study will now be described in detail, starting with interviews:

##### ***2.4.5.1 In-depth phenomenological interviews***

Phenomenology was used to guide this study. In-depth phenomenological interviews were used in order to understand women diagnosed with both HIV/AIDS and cervical cancer.

Rice and Eezy (1999:16) emphasise the usefulness and importance of using phenomenology in order to understand an experience from the perspective of a research participant. Burns and Grove (1999:340) define phenomenology as both a philosophy and a research method. The reason for using phenomenological research was to describe fully the experiences as they are lived by women and be able to interpret those experiences (Burns & Grove 1999:340; Polit & Hungler 1999:246). The phenomenon that was explored and described was the experiences of African women diagnosed with both HIV/AIDS and cancer of the cervix in their lives. Phenomenology enabled the researcher to be close to the respondents and view the world from their perspective (Babbie & Mouton 2001:33). This helped to understand rather than explain behaviour, that is, the experiences of African women diagnosed with both HIV/AIDS and cervical cancer. The lived experience gave meaning to each woman's perception of both HIV/AIDS and cervical cancer. Phenomenology is the best research method to answer a question like "What is it like to live with HIV/AIDS and cervical cancer in your own life?"

#### **2.4.5.2 *Field notes***

Streubert and Carpenter (1999:33) are of the opinion that the use of field notes is important during data collection and analysis. In this project, phenomenology (as discussed in chapter 1) was used to guide the study. The researcher was able to describe fully the experiences as they are lived by African women with both the diagnoses of HIV/AIDS and cervical cancer. Therefore, during interviews with the research participants, field notes were used to describe how participants express themselves, changes positions, and other observations that will be captured by a tape recorder (Streubert & Carpenter 1999:33). The researcher was able to write down what was heard, seen or experienced.

#### **2.4.5.3 *Probing***

Rice and Ezzy (1999:61) define a probe as a "follow-up question that aims to elicit information to fill the blanks in a participant's first response to a question". Throughout the interviewing process, the researcher followed up on topics that have been raised by the research participants, by asking specific questions (Rice & Ezzy 1999:61). Furthermore, this encouraged the research participants to provide more details on the phenomenon under investigation, and constantly pressing for clarification on the participants' words.

## **2.5 PILOT INTERVIEWS**

Pilot interviews were conducted in preparation for the main investigation. Burns and Grove (1999:40) define a pilot study as a smaller version of a proposed research that is undertaken to refine the methodology. This was achieved by using similar subjects, setting, data collection and analysis techniques to that of the proposed study. De Vos et al (2002:215) is of the view that a pilot study must be conducted in the same way as the main investigation. In this study, data was collected by means of interviews that were tape-recorded. The researcher conducted two pilot interviews. The aim was to improve the effectiveness of the data collection instrument for the main investigation (De Vos et al 2002:215).

## **2.6 DATA ANALYSIS**

Tesch's method of descriptive analysis was used during data analysis (De Vos 1998:343-344). De Vos (1998:343) describes the following steps in data analysis.

- Understand the whole by reading through all transcriptions carefully. Write down ideas that come to mind.
- Select one interview. Go through it asking questions like "What is this about?" and "What is important or of value in the information gathered?"
- Write down thoughts in the margin of each transcript.

- Compile a list of topics that emerge. Group topics together in columns.
- Take the list of all the topics and return to the data. Abbreviate the topics as codes and write the codes next to the appropriate parts of the text. Then try the preliminary organizing scheme to see whether new categories and codes emerge.
- Find the most descriptive wording for the topics and turn these into categories. Then, reduce the number of categories by grouping related topics together. Draw lines between the categories to show how they are interrelated.

## **2.7 LITERATURE REVIEW**

Brink (1996:76) states that the most important reason for conducting a literature review is to determine what is already known about the topic under investigation. In addition, this gives the researcher a comprehensive picture of the state of knowledge on the topic. Polit and Hungler (1999:42) point out that some qualitative researchers maintain that a literature review should not be done before commencing a study, as this may influence the researcher's conceptualisation of the phenomenon under investigation.

In this study, the researcher conducted a literature review for background information and motivation and again after the data analysis to compare the findings of the study with those of previous studies. Brink (1996:76) states that in qualitative studies, a literature review is done to inform and support the study, especially data collection and analysis.

## **2.8 MEASURES TO ENSURE TRUSTWORTHINESS**

To ensure valid results, Guba's (1981) model of trustworthiness of qualitative research was used (Krefting 1991:215-222). This model identifies four aspects of trustworthiness, applied to both quantitative and qualitative research, namely truth-value, applicability, consistency and neutrality.

## 2.8.1 Truth-value

Truth-value is concerned with the ability of the researcher to establish confidence in the truth of the findings for the respondents, the setting in which the investigation was conducted and the study's design (Krefting 1991:215). In qualitative research, truth-value is termed credibility. According to Krefting (1991:216), truth-value is the most important criterion for the evaluation of qualitative research. In this study, truth-value was obtained by applying the strategies of credibility, namely prolonged engagement, referential adequacy, reflexivity, triangulation, structural coherence, researcher authority, member checking and peer review.

- **Prolonged engagement**

Researchers need to spend an extended length of time with the research participants (Krefting 1991:217). This enables researchers to check for perspectives and establish rapport and allows the respondents to become accustomed to the researchers and data saturation to occur (Babbie & Mouton 2001:277; Krefting 1991:217). The current researcher is employed in a Radiation Oncology Department where research was conducted. The researcher spent three to four months prior to data collection preparing himself.

- **Referential adequacy**

The researcher conducted two pilot interviews in order to deal with potential problems during fieldwork. To ensure referential adequacy, the researcher used a tape recorder to record the interviews and took field notes (Babbie & Mouton 2001:277).

- **Reflexivity**

A qualitative approach is reflexive when the researcher becomes part of the research and is not separate from it (Krefting 1991:218). The researcher may also use a field journal. Krefting (1991:218) states that this is one way that researchers can describe and interpret their own behaviour and experiences with the research setting. Consensus discussion was also held between the researcher and supervisor before writing the findings.

- **Triangulation**

Streubert and Carpenter (1999:300) state that triangulation may be chosen to ensure completeness of the findings or to confirm the findings. Completeness of the findings provides breadth and depth to the research, offering the researcher a more accurate picture of the phenomenon. Krefting (1991:219) describes triangulation as a powerful strategy for improving the quality of the research, particularly credibility. In this study, the researcher used in-depth individual semi-structured interviews and field notes for data collection. Triangulation, qualitative, exploratory, descriptive research and contextual design were used.

- **Peer examination**

The researcher discussed the research process and findings with experts who are experienced in qualitative research methods (Krefting 1991:219).

- **Member checking**

The researcher checked the information (data) gathered and the interpretation and conclusions with the respondents (Krefting 1991:219). A literature review was conducted to

link the research findings to the previous studies. The researcher ensured that the respondents' views of the phenomenon under investigation were accurately recorded.

- **Authority of the researcher**

Krefting (1991:220) states that examining the researcher's background for any special training regarding the research study is one way of assessing the researcher's investigative skills and technical competence. The researcher underwent extensive training in conducting interviews and observational techniques, conducted by the research supervisor. In addition, the researcher conducted his first interviews under supervision of an expert in qualitative research.

- **Structural coherence**

To increase credibility, the researcher must also ensure that the interviews and observations are internally consistent, that is, there must be consistency between the data and their interpretations (Krefting 1991:220). Structural coherence was established by asking one research question throughout the entire study (See annexure 3). Findings were then reflected with the categories of an existing theory.

## **2.8.2 Applicability**

Applicability refers to the extent to which study findings can be applied to other contexts and settings or with other respondents (Babbie & Mouton 2001:277). In quantitative studies, this refers to the ability to generalise the findings from the sample to the larger population (Krefting 1991:216). In qualitative studies, applicability is not that important because the main aim is to describe a particular phenomenon or experience, not to generalise to a larger population (Krefting 1991:216). Fittingness or transferability is the criterion against

which applicability of qualitative data can be assessed (Krefting 1991:216). A qualitative study meets this criterion when the findings fit into contexts outside the study situation determined by the degree of similarity of goodness between two contexts. Lincoln and Guba (1985:81) state that transferability is more the responsibility of the person wanting to transfer the research findings to another situation or group of people than the researcher of the original study. Krefting (1991:216); and Lincoln and Guba (1985:81) state that if the original researcher presents enough description data to allow comparison, then the problem of applicability is solved. The purpose of this study was to explore and describe the experiences of African women diagnosed with both HIV/AIDS and cervical cancer attending public hospitals, and also help other women in the community with a similar experience.

### **2.8.3 Consistency**

The third criterion of trustworthiness is the consistency of data. Babbie and Mouton (2001:278) point out that the research must show evidence or proof that repeating it with the same or similar participants in the same context would produce the same results. The key to qualitative research studies is to learn from the participants, not control them (Krefting 1991:216).

In qualitative research, consistency is defined in terms of dependability.

- Dependability audit. The researcher conducted in-depth semi-structured individual interviews, which were audio-taped to ensure an audit trail. The researcher used Tesch's method of data analysis that can be followed (trailed) step by step (De Vos 1998:343-344). The researcher referred to the literature review to verify the findings.
- Dense description. The researcher explained the full method of data collection and analysis.
- Triangulation. The researcher used triangulation for credibility and dependability.

- Peer examination. The researcher discussed the data and the findings with peers.

#### **2.8.4 Neutrality**

The fourth criterion of trustworthiness is neutrality. This refers to the extent that the findings are a function solely of the participants and conditions of the research and not of any biases, motivations and perspectives (Krefting 1991:216). In qualitative research, neutrality is defined in terms of confirmability.

- Confirmability. This strategy involves an external auditor attempting to follow through the natural history or progression of events in an investigation to understand how and why decisions were made (Krefting 1991:221).
- Reflexivity. The researcher kept a field journal to reflect his behaviour and experiences. The field journal enabled the researcher to jot down observations during interviews in the form of field notes.

Later, the researcher employed deductive reasoning to develop guidelines for the support of women diagnosed with both HIV/AIDS and cervical cancer.

## **2.9 CONCLUSION**

This chapter discussed the research design and methodology in detail together with the measures to trustworthiness.

Chapter 3 discusses the research findings with reference to the literature review.