

## **CHAPTER 3**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 INTRODUCTION**

In this chapter, the research design and methodology are discussed. A quantitative, descriptive research approach was followed to pursue research objectives. A descriptive survey was conducted at the clinics of Molemole municipality to assess client satisfaction with regard to accessibility of primary healthcare services. Data were collected to determine factors that influenced accessibility. Data were collected by means of a structured questionnaire, information lists, observations, field notes and document analysis. Strategies were employed to ensure the reliability and validity of the research process.

#### **3.2 RESEARCH OBJECTIVES**

*Research objectives were formulated as follows:*

- To assess the accessibility of primary healthcare services in the Molemole municipality with regard to geographical, financial, functional and cultural aspects;
- To identify factors that adversely affected the accessibility of primary healthcare services in Molemole municipality.

### **3.3 RESEARCH APPROACH**

A quantitative and descriptive research approach was chosen for this study. Quantitative research is conducted when data are quantifiable (Brink & Wood 1998:5). Data gathered to assess the accessibility of primary healthcare services with regard to geographical, functional, financial and cultural aspects were descriptive in nature.

### **3.4 POPULATION AND SAMPLING**

A study population is an entire set of individuals with common characteristics. These individuals conform to the criteria of and are available for a particular study (Polit & Hungler 1995:230). In this study, the population was comprised of all adult clients that were serviced by the five clinics of the Molemole municipality of Limpopo Province.

A sample is a subset of the population selected to participate in a study (Polit & Hungler 1995:231). The sample size of this study was one hundred and thirty-four (134). Three to five adult clients (male or female) who utilised services provided by one of the clinics on a particular day of the study were randomly selected. Respondents were requested by the researcher whether they were willing to participate. After informed consent was obtained, the questionnaires were distributed by the researcher. One hundred and thirty-four (134) questionnaires were distributed, completed and returned.

### **3.5 DATA COLLECTION METHOD**

Data was collected by means of questionnaires completed by participants, information lists completed by the researcher, observational field notes taken by the researcher and document analyses.

### 3.5.1 THE QUESTIONNAIRE

The composition of the questionnaire was based on documents that provided the theoretical framework for this study, namely the National Health Plan (1994), the White Paper on the Transformation of the Health System (1997) and the White Paper on the Transformation of Public Service Delivery (1997). Aspects relating to accessibility, as addressed in these documents, were incorporated into the questionnaire. The questionnaire was compiled in English and translated into Sepedi to accommodate Sepedi-speaking respondents. (Refer to Annexures E and F.)

The questionnaire was divided into five sections.

- *Section A* elicited biographical data from respondents. Items such as gender, age and place of residence were included because these factors could influence respondents' perceptions of the functional, geographical, financial or cultural accessibility of healthcare services.
- *Section B* aimed to determine the geographical accessibility of services. Questions focused on aspects such as the travelling time from place of residence to the nearest clinic, types of transport used and the cost involved.
- *Section C* of the questionnaire explored the affordability of primary healthcare delivered at clinics. This section assisted the researcher in determining whether services were financially accessible.
- *Section D* consisted of items investigating the functional accessibility of primary healthcare services. This section focused on aspects that could enhance the level of client satisfaction or client dissatisfaction. Functional factors such as the operational hours of clinics, involvement of community members in decision-making and the availability of services, supplies, equipment and facilities were explored. Response options with regard to the availability of services in the

community included care groups, home-based care, DOTS supporters, traditional healers, religious groups and traditional midwives.

- *Section E* investigated the cultural accessibility of clinics. Data were obtained about the relationship between nurses and community members, the acceptability of a specific clinic and the acceptability of services according to the cultural norms of the community.

In conclusion, respondents were given the opportunity to make suggestions on how services could be improved. These suggestions assisted the researcher in formulating recommendations regarding the improvement of services, client satisfaction and accessibility of services.

Observations made by the researcher and informal discussions with staff members complemented and verified information obtained from the questionnaires. Observations and discussions were documented as field notes (Refer to Annexure H.)

### **3.5.2 INFORMATION LIST**

The researcher used information lists to organise data on staffing levels, types of services rendered by the different clinics, referral systems, and support systems for nurses. Nurses' support systems included availability of equipment, facilities and medical supplies. A separate information list was completed for each clinic.

*Staffing levels were investigated on the basis of the:*

- Staff structure of each clinic as approved by the Department of Health;
- Number of staff positions already filled during the month of data collection; and the
- Number of staff on duty on the day of data collection.

The above data assisted the researcher in determining patient:staff ratios. The possible influence of the staff establishment on service delivery was also investigated.

The variety of services rendered at clinics has been explored to determine whether clinics met the criteria of primary healthcare delivery. The researcher took into account that mobile clinic services were organised differently. These differences were accommodated throughout the study. The availability of supplies to treat patients according to the EDL was also explored. (Refer to Annexure G.)

### **3.5.3 OBSERVATIONS, FIELD NOTES AND DOCUMENT ANALYSIS**

During her visits to the clinics, the researcher made careful observations and took informative field notes on aspects such as clinic structures, surroundings and waiting-times. Relevant documents were analysed. (Refer to Annexure H.)

Primary health care is the first contact clients have with health care. If more specialised services are needed, clients are referred to community health centres or referral hospitals. Information about the reasons for referrals, the modus operandi of referrals and the availability of an infrastructure was obtained during informal discussions with personnel. Nurses' support systems and the working conditions of nurses were explored. Notes were taken on the availability of facilities such as consulting rooms, waiting areas, equipment and other resources that were necessary to render services.

### **3.6 PEER REVIEW OF QUESTIONNAIRE**

The head of the community nursing department of the Limpopo College of Nursing - Sovenga Campus assessed and reviewed the questionnaire. The questionnaire was translated into Sepedi by Hlabirwa-Monare Interpreters and Translators CC.

### **3.7 DATA COLLECTION PROTOCOL**

According to Polit and Hungler (1995:288), self-administered questionnaires can be administered in a number of ways. In this study, the researcher was at the clinics (the mobile clinic included) during the completion of the questionnaires, and was therefore available to provide clarification and assistance when required to do so.

Data were obtained from three to five clients who visited the clinic at the day of data collection. The questionnaire was completed by the respondent only after health care has been delivered. If the respondent needed assistance to complete the questionnaire, the researcher used the questionnaire to conduct a structured interview. The majority of the clients could read and write, but some needed assistance by the researcher.

The fact that the researcher personally distributed the questionnaire had a positive effect on the response rate. One hundred and thirty-four (134) questionnaires were distributed, completed and returned, and the response rate therefore was one hundred per cent (100%).

To accommodate temporal differences, each clinic was visited on each of the five to seven days of the week that the clinics were operational. Between three and five respondents per clinic completed questionnaires on the days of data collection. This approach resulted in a total number of sixteen to twenty-five (25) respondents per clinic.

### **3.8 DATA ANALYSIS**

Making sense of and interpreting data are the aims of data analyses. Data analyses are also conducted with the aim of utilising the information to meet research

objectives. In this study, the data analysis was done by means of descriptive statistics.

### **3.8.1 DESCRIPTIVE STATISTICS**

Descriptive statistics describe and summarise data (Polit *et al.* 2001:460). According to Burns and Grove (1993:473), descriptive statistics allow the researcher to organise data in ways that give meaning and facilitate insight. Statistics also allow the researcher to examine a phenomenon from a variety of angles in order to understand more clearly what is being seen.

### **3.8.2 PRESENTATION OF DESCRIPTIVE STATISTICS**

Some of the data were presented by means of frequency distribution. Frequency distribution usually is the first strategy used to organise data (Burns & Grove 1993:473). Grouped frequency distribution and percentage distribution were also used in this study. Column graphs, sector charts and tables were used to illustrate data. Graphic presentations can be used to facilitate understanding of data. They are especially useful in understanding essential features of frequency distribution, and in comparison analysis (Ferguson in De Vos 1998:209).

## **3.9 ETHICAL CONSIDERATIONS**

Ethical standards for nursing research as stated by the Democratic Nursing Association of South Africa (DENOSA1998) were applicable to this study. These standards have reference to the quality of research, confidentiality and anonymity of participants and participants' right to self-determination in a research project.

The standards and their applications are set out below.

- **Research was planned and executed in a way that excluded harm and exploitation of participants:**
  - Participants, who refused to participate in the research or wished to withdraw during participation, were not victimised.
  - Approval has been obtained from the relevant research ethics committees. (Refer to Annexures A and B.)
  
- **The participant's right to self-determination was ensured:**
  - Informed consent was obtained in writing from participants by the researcher. The informed consent document was translated into Sepedi. (Refer to Annexures C and D.)
  - The researcher verbally obtained informed consent from the clinics in the Capricorn district and the Molemole municipality.
  
- **Confidentiality and anonymity was ensured in accordance with the following criteria:**
  - The identity of participants was protected and no personal information such as names or surnames were requested.
  - Participants were privately interviewed in consulting rooms to ensure privacy and to respect their dignity.
  - To ensure that no link could be made between the identity of a participant or organisation and the research data, only numbers were used.
  - Names of clinics were not used, they were only listed as Clinic A, B, C, D or E.

➤ **The researcher complied with criteria guiding the quality of research:**

- The researcher adhered to standards set for the planning, implementation, evaluation and reporting of research.
- The researcher respected participants' integrity by being honest, especially with reference to the importance of the study and the value of their contribution.
- Objectivity was maintained during data collection.
- Measures were taken to ensure the validity and reliability of the research process and data analysis (see below).

### **3.10 VALIDITY AND RELIABILITY OF THE STUDY**

Reliability is concerned with how consistently an instrument measures the concept of interest, while validity is defined as the extent to which the instrument reflects the abstract construct being examined (Burns & Grove 1993:778,783). Content validity is concerned with adequacy of coverage of the content area being measured. Content validity is particularly relevant for testing of knowledge (Polit & Hungler 1999:418).

The *content validity* and *construct validity* of the questionnaire have been assessed. An expert in the field of primary healthcare has judged the extent to which the content of the questionnaire appeared logical and covered the scope of the research.

Validity and reliability of the study was enhanced by the inclusion of all clinics in the area under study and the participation of clients who used services on different days of the week. The willingness of the researcher to address queries, the assistance given to illiterate participants by means of structured interviews and the presence of the researcher during the completion of questionnaires provided consistency and further enhanced the validity of the study.

### **3.11 CONCLUSION**

Chapter 3 provided a description of the research design and methodology that were used to address the research objectives. A quantitative and descriptive approach was used to guide the research. For this purpose, a non-experimental, descriptive research design was adopted. Data collection occurred by means of a questionnaire, information lists, observational field notes and document analysis. Descriptive statistics were mainly used to analyse data. Ethical principles were adhered to, and issues regarding validity and reliability addressed.