

CHAPTER 3

RESEARCH DESIGN AND METHOD

3.1 INTRODUCTION

This study focused on the factors contributing to absenteeism among nurses. The emphasis was on identifying which *characteristics of the nurse, the manager, the work and the organisation* contribute to absenteeism of nurses in the work setting of the Mopani District in Limpopo Province of South Africa. This chapter describes the methods and procedures that were applied to obtain the data required for the study. It describes the research design, the population, the sampling techniques, the data collection instrument, the pilot study, data analysis and ethical aspects of the research.

3.2 RESEARCH DESIGN

Research design guides the researcher in planning and implementing a study in a way that is most likely to achieve the intended goal (Burns & Grove 1993:261). This quantitative, non-experimental study investigated and described the characteristics of the phenomenon of absenteeism among nurses in the workplace (Johnson & Christensen 2000:302). This quantitative research involved the systematic collection of numerical information, and the analysis of the information by using statistical procedures (Polit & Hungler 1995:15). Quantitative research is characterised by, inter alia, deductive reasoning, objectivity, the use of a structured instrument, and statistical data analysis procedures (Glesne & Peshkin 1992:7). This study identified which of the *characteristics of the nurse, manager, work and organisation* contribute to the absenteeism of nurses in the workplace. Recommendations were formulated concerning how absenteeism could be reduced among nurses.

3.3 RESEARCH SETTING

The research study was conducted in a clinical setting, at a Government regional hospital in the Mopani District of the Limpopo Province. The Mopani district has seven district hospitals, and one regional hospital. This regional hospital serves as a referral hospital to which the seven district hospitals refer patients for specialised services. The choice appeared to be relevant because it is the area where the researcher was stationed and it is in this hospital that the problem of absenteeism among nurses was identified. The researcher regarded this setting as appropriate because no transport costs were experienced and it was easy to obtain the cooperation of the nurse managers and their assistance in data collection.

3.4 RESEARCH METHOD

3.4.1 Population

Polit and Hungler (1995:38) state that the term “population” refers to the aggregate or totality of all objects, subjects or members that conform to a set of specifications. The nursing population included all three categories of nurses, namely registered nurses, enrolled nurses and enrolled nursing assistants, who were allocated to the different clinical areas in a regional hospital. The total size of the population was 270 nurses. Table 3.1 provides an overview of the number of nurses in the different nursing categories in the population.

Table 3.1 Total population of nurses in the regional hospital

Registered nurses	107
Enrolled nurses	114
Enrolled nurse assistants	49
Total	270

3.4.2 Sampling

“Sampling” refers to the process of the selection of a portion of the population to represent the entire population in a study (Polit & Hungler 1996:652). The population can serve as a sample for a study (Johnson & Christensen 2000:150). All the registered nurses, enrolled nurses and enrolled nurse assistants working day shifts and night shifts, in the regional hospital were included in this study. The respondents were full-time nurses employed in the said Government regional hospital. The purpose was to investigate which *characteristics* and *personal circumstances of the nurse, characteristics of the manager, characteristics of the work and characteristics of the organisation*, were viewed by nurses as contributing to absenteeism in the workplace. Their views would indicate which aspects needed to be improved, after which recommendations could be described to address the problem of absenteeism.

A total of 270 questionnaires were distributed and 233 were returned. This constitutes a response rate of 86.2% (refer to table 3.2).

Table 3.2 Questionnaire distribution and response rates

Clinical ward/unit	Questionnaires sent out	Questionnaires returned	Percentage of total %
Medical ward	50	47	20.1
Surgical ward	50	47	20.1
Operating theatre	25	24	10.3
Casualty department	25	22	9.4
Outpatient clinic	25	22	9.4
Maternity ward	23	20	8.5
Paediatric ward	22	17	7.3
Psychiatric ward	20	15	6.4
Intensive care unit	10	8	3.4
Clinic	5	5	2.1
Orthopaedic ward	5	2	0.8
Health centre	5	2	0.8
Other	5	2	0.8
Total (n)	270	233	86.2%

3.4.3 Data collection

Data collection is a precise, systematic method of gathering information relevant to the research purpose, or of addressing research objectives, and research questions or hypotheses (Burns & Grove 1993:766).

3.4.3.1 *Data collection approach and method*

In this study a structured data collection approach was used to collect the data. This approach was selected because it allowed for the quantification of responses, and the statistical analysis thereof. A self-report method, using a structured questionnaire, was applied. A questionnaire was selected because it was easy to administer. The researcher requested managers to distribute it, in their respective units. It was relatively inexpensive because no postage costs were involved. The respondents completed the questionnaires in their spare time. There was a great sense of anonymity because each respondent was given his or her own questionnaire and

the responses could not be linked to any particular person. Respondents were more likely to provide honest answers because each one could complete the questionnaire in private. This was of particular importance because of the sensitive nature of absenteeism in the workplace.

3.4.3.2 *Characteristics of the instrument*

After completion of an in-depth literature study, a questionnaire was designed, keeping the research objectives in mind. A questionnaire is a printed self-report form designed to elicit information that can be obtained through the written responses of the subject (Burns & Grove 1993:777). The items were derived from the literature review and were in line with the conceptual framework. The questionnaire was divided into five sections: Section A elicited responses that were measured on the nominal and ordinal levels of measurement. Sections B, C D and E comprised Likert Scales, and therefore the ordinal level of measurement was applicable. A Likert Scale consists of a series of opinion statements about a particular issue, event or person. Respondents indicated the extent to which they agree or disagree with each statement (Edelmann 2002:280). In this study respondents had to indicate their level of agreement with each item by responding with the "*to no extent*", "*to a limited extent*", "*to a moderate extent*" or "*to a large extent*" options. Respondents responded to the closed-ended items by indicating their responses with a "X".

Using the conceptual framework adapted from Taunton et al. (1995:222), the questionnaire was structured as follows:

Section A: Background information.

Section B: Data related to the characteristics and personal circumstances of *nurses*.

Section C: Data related to the characteristics of the *manager*.

Section D: Data related to characteristics of the *work*.

Section E: Data related to the characteristics of the *organisation*.

Section A was designed to obtain background information on the age of nurses, gender, marital status, highest qualifications, registration with the South African Nursing Council, years of

experience, the clinical ward/unit in which the nurse was working and the current post held by the respondent.

Section B aimed to investigate the extent to which the respondents were of the opinion that various reasons related to the characteristics of *nurses* contribute to absenteeism among nurses. The focus was on the health status of the nurse, family responsibilities, marital responsibilities, work commitment, transport problems, opportunities outside the workplace and income. Eighteen questions were formulated in this regard.

Section C aimed to determine the extent to which the respondents believed that the characteristics of the *manager* contributed to their absenteeism. Twenty-two items on the leadership style of the manager were formulated here.

Section D comprised items about characteristics of the *work* in relation to autonomy, routinisation and group cohesion. The purpose was to find out the extent to which nurses believed that these aspects contribute to absenteeism. Twenty-five items were formulated in this regard.

Section E was designed to identify the extent to which respondents believed that the characteristics of the *organisation* contribute to absenteeism, with the focus on decentralisation, the absence management policy, promotion opportunities, career development, incentives, remuneration, facilities and manpower. Twenty items were developed in this regard.

3.4.3.3 *Pre-testing of the questionnaire*

The questionnaire was pre-tested before the data collection began. Pre-testing is performed to determine the feasibility of using a particular instrument in a major study. It provides an opportunity to try out the instructions for completion of the instrument, especially if it is used for the first time. This entails a trial administration of a newly developed instrument in order to identify flaws and time requirements (Brink & Wood 1998:373; Polit & Hungler 1995:650). A

researcher gains some experience in interacting with the respondents and also learns what would happen in the major study with regard to their willingness to participate (Brink & Wood 1998:259). In this study the purpose of pre-testing the questionnaire was to test its face and content validity, and to identify and rectify problem areas. After pre-testing the instrument, it was refined.

The participants who took part in pre-testing the questionnaire were not included in the major study (Brink & Wood 1998:259). In this study, the researcher distributed the questionnaire to five registered nurses, three enrolled nurses and three enrolled nursing assistants in the hospital to judge its face validity. The assessors completed the questionnaire and evaluated the items according to specified criteria. They were furnished with an evaluation instrument, which comprised a semantic differential scale and criteria for a well-developed questionnaire. The criteria covered the principles of clarity, appearance, layout, legibility, relevance, anonymity and privacy. A space for comments was also included in the evaluation checklist. The participants evaluated and rated the instrument highly in terms of appearance, layout, legibility, anonymity and completion time. They also judged the items to be relevant in terms of reasons for absenteeism and as not too revealing. With regard to the clarity of the items some items in section B were found to be unclear and the assessors recommended that they be reformulated. This section was corrected, with the aim of improving its clarity. Spelling mistakes were identified and corrected.

3.4.3.4 *Pilot study*

A pilot study is a small or trial run done in preparation for a major study. The aim of a pilot study is to obtain information in order to assess the feasibility of the major study (Polit & Hungler 1995:64). The pilot study was carried out in October 2002. The population for the pilot study possessed similar characteristics to the research population. The research method was applied on a limited scale. Twenty questionnaires were distributed and a good response rate was obtained. The questionnaires were sent to the statistician for analysis, who was satisfied with the results.

3.4.3.5 Data collection process

Data was collected in December 2002 and January 2003. Prior to data collection, the researcher held a meeting with the nurse managers in charge of the units. The purpose of this meeting was to inform them about the nature and importance of the research study. The questionnaire and the data collection procedure were discussed with them, and ethical considerations were attended to (par. 3.6.1). A potential source of error was misrepresentation, by respondents, of their true opinions, owing to the sensitive nature of absenteeism. To ensure that respondents gave their honest answers without fear of reprisals from their supervisors or peers, they were specifically assured that anonymity and confidentiality would be maintained.

The nurse managers assisted with the distribution of the questionnaires to the respondents. Envelopes in which to insert and seal the completed questionnaires were also distributed. The respondents were allowed to complete the questionnaires at a time convenient for them. They were furnished with the researcher's contact numbers and were invited to contact the researcher to clarify any misunderstanding regarding the completion of the questionnaires. A due date for returning the completed questionnaires was agreed upon. Then the next appointment was arranged with the nurse managers for the collection of the questionnaires at their respective workplaces.

3.4.4 Data analysis

The researcher coded all the returned questionnaires for easy entry into a computer. Quantitative data analysis was performed by a statistician. Descriptive statistical methods were employed. The statistical tests performed included the frequencies of responses, factor analysis and the Chi-square test of association. *Factor analysis* is done to examine the interrelationships between a large number of variables and to group together clusters of variables that are most closely linked (Burns & Grove 1993:769). It is applied to identify a relatively small number of factors that can be used to represent the relationship among sets of many interrelated variables

(Tredoux & Pretorius 2002:354). The factor analysis grouped relevant items of each section of the questionnaire, which showed interrelationships, together. Variables with a factor loading of .35 and higher were included in a factor (Burns & Grove 1993:542). The purpose was to reduce the multiple reasons for absenteeism into categories, to enable the researcher to present the research in an organised and understandable form.

The Chi-square (χ^2) test, a non-parametric statistical test, was done to determine whether there were significant differences between the observed frequencies of responses from the professional and sub-professional nursing categories (Burns & Grove 1993:499). The Chi-square test was utilised to determine whether reasons for absenteeism cited by these categories of respondents could be associated with, for instance, their age and their professional category.

3.5 VALIDITY AND RELIABILITY

3.5.1 Validity and reliability of the questionnaire

Validity is the degree to which an instrument measures what it is intended to measure (Polit & Hungler 1995:656). According to Burns and Grove (1993:342), the validity of an instrument is the determination of the extent to which the instrument actually reflects the construct being examined. Content validity is an assessment of how well the instrument represents all the different components of the variables to be measured (Brink 1996:168). According to Brink and Wood (1998:271), content validity is an estimation of the adequacy with which a specific domain of content is sampled. It refers to the completeness with which items cover the important areas of the domain which the researcher is attempting to represent. Content validity was judged by the research supervisors. They determined whether the items represented adequately the aspects associated with absenteeism of nurses, as specified in the conceptual framework of Taunton et al. (1995). The questionnaire was tested for face validity, as explained in section 3.4.3.3.

The questionnaire was also tested for reliability, and specifically for internal consistency. Reliability of a data-collection instrument refers to the degree to which a data collection

instrument can be depended upon to yield consistent results if used repeatedly over time on the same person, or if used by two different investigators (Polit & Hungler 1995:347). The Chronbach Alpha scores are indicated in relevant sections of chapter four. The reliability of the instrument is the degree of consistency or dependability with which an instrument measures the attribute it is designed to measure (Polit & Hungler 1995:347).

3.5.2 External validity

External validity refers to the generalisability of the research findings to other settings (Polit & Hungler 1995:221). In this research study, external validity was enhanced because the entire population was involved in data collection.

3.6 ETHICAL CONSIDERATIONS

It is imperative that a researcher protects the rights of the participants of a research study and those of the institution in which the study is conducted. A researcher should also ensure that the scientific integrity of the study is maintained.

3.6.1 Protecting the rights of the respondents

Prior to obtaining informed consent from the respondents, the researcher explained the nature and purpose of the study. The procedure to be followed when completing the questionnaires was explained verbally and in writing. The respondents were assured that no harm would befall them for revealing their reasons for absenteeism in the workplace. They were assured that the recommendations of the study might contribute towards a better working environment. The respondents were not obliged to participate in the study, as one of the principles of the ethical conduct in the research was that participation in studies should be voluntary (Burns & Grove 1993: 94). Respondents were informed that participation in the research study was voluntary and that failure to comply would not result in any penalties. They were assured that they could withdraw even after consenting to cooperate in the research. The respondents were furnished

with contact information, so that they could contact the unit manager or the researcher in the event of further questions, comments or complaints.

Confidentiality and anonymity (Burns & Grove 1993:99) were very important in this study, as absenteeism is a sensitive issue. Respondents who are often absent from work might be reluctant to respond to the items because they might feel that the questionnaire was designed to examine their behaviour. The researcher anticipated that the respondents could fear reprisals and therefore the researcher ensured that the principles of anonymity and confidentiality would be applied strictly. The respondents were informed that they should not write their names on the questionnaires and that the raw data would be entered into the computer using codes. They were assured that neither their nor the hospital's name would appear in the research report. The respondents were assured that confidentiality would be maintained throughout the study. The researcher assured them that the completed questionnaires would be locked up in a secure place and that only the researcher would have access to them.

3.6.2 Rights of the institution

Permission to conduct the research study was obtained from the Superintendent General of the Limpopo Province Department of Health and Welfare and the hospital authorities. The researcher agreed to disseminate the research results to the authorities.

3.6.3 Scientific integrity

Scientific integrity refers to the degree to which a study is methodologically and conceptually sound, a major criterion for research utilisation (Burns & Grove 1998:218; Polit & Hungler 1999:468). In this study, the research method and conceptual definitions were approved by the supervisor and the co-supervisor. Scientific integrity was maintained by the acknowledgement of all sources in the literature review. Data was collected after the supervisors approved the instrument, and the instrument was tested for its validity and reliability. During data analysis appropriate tests were used and there was no manipulation of statistics or distortion of findings

to support the researcher's opinions. A statistician assisted with data analysis. The researcher ensured that the findings were supported by data.

3.7 SUMMARY

Quantitative descriptive research was conducted to determine which factors contribute to absenteeism in the workplace. A self-report method, employing a structured questionnaire was employed to collect data. Two hundred and thirty three (233) respondents participated in the study. The collected data was subjected to analysis by employing factor analysis, descriptive statistics and by calculating the Chi-square. The researcher applied specific measures to enhance the external validity of the study and to ensure that ethical principles were being adhered to. The research findings are presented in chapter four.