CHAPTER 3

METHODOLOGY

This chapter describes methodology of this study. It includes research design, population and sample, setting, instrumentation, protection of human subjects, data collection procedure and data analysis procedure.

Research Design

A descriptive comparative design was employed in this research to study nurses and patients expectation from nursing service quality, to study nurses and patients perception regarding nursing service quality performed by nurses and to compare nursing service quality as perceived by nurses and patients.

Population and Sample

Population

Nurses and patients were selected from 11 inpatient wards/units in the Indira Gandhi Memorial Hospital. The accessible population of nurses was 247 (excluding 298 nurses from total of 545 nurses who were working in labour room, dialysis unit, outpatient departments, emergency room pediatric ward, operation theater, neonatal intensive care unit and general intensive care unit). The accessible population of patients was 11,160 (excluding 2,591 patients from the total of 13,751 patients who were admitted in labour room, dialysis unit, pediatric ward and intensive care unit) in 2009. The nurses and patients were excluded from the above mentioned settings, because the settings were not inpatient units/wards and to exclude nurses and patients in critical care settings. Additionally, pediatric ward was excluded in the study as the ward admitted patients less than 18 years old and the patients were under their parents' supervision.

Sample

According to formula of Yamane (1967), sample size of nurses was 152. Considering possible loss of subjects, 10% of the sample size was added. Therefore, the number of nurses' sample was 167. The inclusion criteria guided for identification of nurse participants: nurses who work in the position of Clinical Nurse, Senior Registered Nurse, Registered Nurse and Enrolled Nurse.

Sample size of patients was calculated according to Yamane (1967) formula, and the sample of patients was 386. Taking into consideration for the possible loss of subjects, 10% of the sample size was added; therefore the number of patients sample size was 425. For patients the following criteria's were applied for selection of patient participants in the study: 1) patients who had minimum of 2 days hospitalization, 2) able to read and write Maldivian language, 3) above 18 years, 4) in stable condition and 5) did not have mental health problem.

Proportionate stratified sampling was used to determine nurses and patients from 11 inpatient wards/units. Randomly drawn sampling was used to select nurses from the list of nurses in every ward/unit. This process was continued until the required number of nurses was obtained. Patients who met inclusion criteria were selected during data collection period. Sample selections in this study excluded nurses and patients subjects of the reliability test, in order to avoid testing bias due to repeated measurement. The distribution of the accessible population and the sample size of nurses and patients are illustrated in Table A1 (Appendix A).

In this study, a total of 167 questionnaires were distributed to sample nurses in the 11 inpatient wards/units. Completed questionnaires were received from 162 (97%) nurses. A total of 425 eligible patients were selected and completed questionnaires were received from 383 patients (90.12%) and the completed questionnaires were used for data analysis.

Setting

This study was conducted in five private wards, Isolation Ward, Labour Induction Unit and in four general wards which included Surgical Ward, ENT/EYE/Orthopedic Ward, Gynecological Ward and Medical Ward in the Indira Gandhi Memorial Hospital, Maldives.

Instrumentation

The instruments for this study consisted of two parts: nurses SERVQUAL scale and patients SERVQUAL scale.

Nurses SERVQUAL scale (Appendix B)

There are two parts of this questionnaire:

Part I: Demographic data of nurses. It consisted of nine items which included age, gender, level of education, clinical area of work, years of working in present clinical area, years of working as a nurse, employment status, professional position and number of times participated in training program in past year.

Part II: The Part II of nurses SERVQUAL scale was modified by the researcher from SERVQUAL scale developed by Parasuraman, Zeithaml and Berry

(1988). It consisted of two sections, which were Section A and Section B. Section A was for nurses expectation from nursing service and Section B was for nurses performance of nursing service. The two sections of the scale consisted 44 items with five dimensions: tangible, reliability, responsiveness, assurance and empathy. A five-point Likert like scale was used for the scoring system, with (5) representing "strongly agree" and (1) representing "strongly disagree". The tangible dimension consisted four items and the possible range of score for the dimension was from 4 to 20. Reliability dimension consisted five items and the possible score ranged from 5 to 25. Responsiveness and assurance dimensions included four items in each dimension and the dimensions possible score was from 4 to 20. Five items were included in empathy dimension and possible score ranged from 5 to 25. Possible range of score for nurses' total expectation and total perception of performance was from 22 to 110.

Patients SERVQUAL scale (Appendix C)

There are two parts of this questionnaire:

Part I: Demographic data of patients. It consisted of six items which included age, gender, admitted ward/unit, educational level, number of admission to this hospital in past and length of stay in hospital.

Part II: The Part II of patients' SERVQUAL scale was modified and translated by the researcher from SERVQUAL scale developed by Parasuraman, Zeithaml and Berry (1988). It consisted of two sections, which were Section A and Section B. Section A was for patients expectation from nursing service and, Section B was for patients perception of nursing service performance. The two sections of the scale consisted 44 items with five dimensions: tangibles, reliability, responsiveness, assurance and empathy. A five-point Likert like scale was used for the scoring system, with (5) representing "strongly agree" and (1) representing "strongly disagree". The tangible dimension consisted four items and the possible range of score for the dimension was from 4 to 20. Reliability dimension consisted five items and the possible score ranged from 5 to 25. Responsiveness and assurance dimensions included four items in each dimension and the dimensions possible score was from 4 to 20. Five items were included in empathy dimension and possible score ranged from 5 to 25. Possible range of score for patients' total expectation and total perception of performance was from 22 to 110.

Validity and Reliability of the Instruments

1. Test for validity of nurses and patients SERVQUAL scales. The SERVQUAL scale developed by Parasuraman, Zeithaml, and Berry in 1988 was modified by the researcher to fit with the nursing service context. Afterwards, content validity of the instruments was checked by three experts from Faculty of Nursing, Chiang Mai University, Thailand and by two Maldivian experts (Appendix D). The content validity index (CVI) for nurses SERVQUAL scale was 0.82 and 0.82 for patients (Appendix E and Appendix F). The scales were revised according to the experts' suggestions. After the validation process the patients' questionnaire was translated to Maldivian language, back-translated into English, and then the original English and back-translated versions were tested for equivalence.

2. Test for reliability of nurses and patients SERVQUAL scales. A pilot study was conducted with convenience sampling of 20 nurses and 20 patients from Indira Gandhi Memorial Hospital, who met the inclusion criteria for the study. The internal consistency reliabilities of SERVQUAL scales were determined by using Cronbach's alpha. The Cronbach's alpha coefficient for SERVQUAL scale of nurses was 0.92 and 0.88 for patients (Appendix G). In addition, the internal consistency reliability of nurses and patients SERVQUAL scales were tested on 162 nurses and 383 patients. The Cronbach's alpha coefficient for 162 nurses SERVQUAL scale was 0.85 and Cronbach's alpha coefficient for 383 patients SERVQUAL scale was 0.88.

Protection of Human Subjects

Prior to data collection, the research proposal of the study was approved by Research Ethics Review Committee in the Faculty of Nursing, Chiang Mai University, Thailand (Appendix H) and was approved by Maldives National Health Research Committee (Appendix I). In addition, permission for data collection in the Indira Gandhi Memorial Hospital was provided by the Director of Nursing Department (Appendix J). All participants of the study (nurses and patients) were notified about the study purposes and methods. The participants were informed that they had the right to refuse or discontinue from the study at any time. Patients were assured that whether they choose to participate or not they would not lose any benefits from the hospital services. Similarly, nurses were informed that their withdrawal or participation in the study will not have any effect on their performance evaluation. Nurses and patients who were willing to participate in the study signed informed consent. Furthermore, anonymity and confidentiality of all the information was maintained by using alphabetical and numerical codes in the questionnaires instead of using respondents' names. Information provided by the subjects was used only for the study and remains confidential. The results of the study were presented as an overall group result.

Data Collection Procedure

Data collection was carried out in November and December, 2010. The procedures were as follows.

1. After receiving approvals from the Graduate School, Chiang Mai University, and the Research Ethics Review Committee of Faculty of Nursing, Chiang Mai University, the research proposal and instruments were submitted to the Maldives National Health Research Committee for request for approval for conducting the study in the Maldives.

2. Submitted the research proposal and instruments to Managing Director of Male' Health Services Corporation and to Director of Nursing Department of the Indira Gandhi Memorial Hospital for permission of data collection.

3. Met with nurse managers in the selected inpatient wards/units and explained the aims and procedure of this study.

4. Selected subjects from a list of nurses, using random sampling technique.

5. Explained purposes and benefits of the study to the selected nurses and gained informed consent from who were willing to participate in the study.

6. Distributed research package to the selected nurses by the researcher which included information sheet regarding the study, informed consent form, demographic questionnaire and the SERVQUAL scale for nurses. The questionnaires were required to be returned within two weeks in closed envelopes in designated box for nurses' questionnaires which were placed in each ward under the supervision of shift in-charge nurses. 7. A nurse from each ward/unit was chosen to assist in the distribution of patients' questionnaires. Eligible patients were identified from each selected ward/unit on their admission to the wards on daily basis. Informed consent was taken when patients were willing to participate in the study.

8. The research package for patients included information sheet regarding the study, informed consent form, demographic questionnaire and the SERVQUAL scale for patient.

9. On the day of admission patients were asked to fill the SERVQUAL scale for patients' expectation questionnaire.

10. Patients were informed to complete the SERVQUAL scale – patients' perception of nurses' performance questionnaire after two days stays in the hospital or before discharging with hospital stay of more than two days. Patients completed questionnaires were asked to be sealed in envelop provided and to place them in a box designated for patient questionnaires placed in each ward.

11. All questionnaires were collected by the researcher twice a week and excluded questionnaires which were incomplete.

Data Analysis

The researcher scrutinized data before it was analyzed by using SPSS 15.0 statistical software package.

1. Descriptive statistics of frequency, percentage, mean and standard deviation were used to present demographic data of nurses and patients.

2. Descriptive statistics of mean and standard deviation were used to present nurses and patients expectation from nursing service, nurses and patients perception of nursing service performance.

3. The SERVQUAL score was computed as nursing service quality (SQ)
= perception of performance score (P) - expectation score (E) for each pair of 22
statements of expectation and performance statements for each respondent.

Normal distribution of data was tested and the distribution was markedly non-normal in this study, so a nonparametric statistical test, the Mann-Whitney U Test was employed to test the difference between nurses and patients perception of nursing service quality.



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