CHAPTER - III

METHODOLOGY

The aim of the present study is to explore the perception of nurses’ performance among health professionals and to give feedback to the nurses by providing with strategies (Module) to improve quality care on PELCE Roles. The study was carried out on two population namely, health professionals (physicians, nurse educators and nurse administrators) and nurses (self evaluation).

RESEARCH APPROACH

The study employed a cross-sectional descriptive co-relational survey approach. Survey approach refers to the obtaining of information from sample of subjects by means of self-report, so that the study participants respond to a series of questions posed by the investigator. The survey focuses on obtaining information regarding the activities, beliefs, preferences and attitudes of people via direct questioning of a sample of respondents. The self-report method is strong in directness and versatility. Furthermore, self administered questionnaire encourages respondents to complete the instruments themselves usually on paper and pencil form. By distributing the questionnaire to group a larger and more geographically diverse sample can be obtained. As samples included different levels of professionals cross sectional survey approach was selected to obtain the required data from various levels of health professionals.
Research Design

The descriptive-co relational design was selected for the study. The aim of descriptive co-relational research is to describe the relationship among variables. The co-relational research was designed to discover the performance of nurses in various roles and to relate the information obtained to their personal, educational experiences and institutional variables. The demographic variables such as age, sex, religion, educational experience, institution trained, institution worked and years of experience were built into the study and their effects on perception of nurses’ performance.

SETTING OF THE STUDY

The study was conducted in selected hospitals, schools and colleges of nursing in Tamil Nadu. Many of the colleges and schools have affiliated hospitals except few where they have their own hospitals. Hospitals ranging in size from 250 – 1000 beds were selected. Attempt was made to have representation from different hospitals. i.e. Central govt., State govt., private and mission hospitals.

Period of Data Collection

The data was collected between June 2004 to June 2005.
POPULATION

The study population comprised the following four categories of health professionals namely physicians, nurse administrators, nurse educators and registered nurses. Among them, health professionals who have first level supervision with registered nurses were only included.

SAMPLE

Multistage sampling was adopted to select institutions in Tamilnadu. The institutions were grouped as central, state, private and mission. Simple random sampling was used to select subjects from the selected units.

Selection of Institutions

The hospitals which have attached/affiliated teaching hospitals were mainly included in the study. The hospitals which do not have the colleges and schools were also included so as to have the representative samples. The institutions grouped as central govt., state govt., private and mission hospitals and from each group two institutions were selected randomly by picking up lots from each group.

Final list of institutions

- Central Govt. – 2
- State Govt. – 2
- Private – 2
- Mission – 2
DEVELOPMENT OF THE INSTRUMENT

The study was conducted by using two types of self-administered questionnaire. The first questionnaire was for assessing the perception of health professionals on pentagonal roles of nurses. This was prepared by using Richard et al. performance scale. In addition to this, the questionnaire included items to measure the nurses current level of involvement as evaluator and communicator roles.

II The second questionnaire was used for assessing the perception of nurses’ performance by self. The NDI (Nursing Dimension Inventory) which has been described by Watson et al., (1996) was used in this study and this was developed from the 35 item version Caring Dimensions Inventory (CDI 35). The NDI 35 is designed to elicit how important respondents think about the items in the questionnaire for nurses.

DESCRIPTION OF THE INSTRUMENT

The first questionnaire had 3 parts (Appendix-I)

Part I Demographic data of the evaluator

Part II Demographic data of the nurse under observation

Part III Consists of 75 indicators under 5 roles
No of items

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Practitioner role</td>
<td>20</td>
</tr>
<tr>
<td>b</td>
<td>Educator</td>
<td>15</td>
</tr>
<tr>
<td>c</td>
<td>Leader</td>
<td>15</td>
</tr>
<tr>
<td>d</td>
<td>Communicator</td>
<td>15</td>
</tr>
<tr>
<td>e</td>
<td>Evaluator</td>
<td>10</td>
</tr>
</tbody>
</table>

Each indicator was scored on a 3 point scale of: does not meet standard - 1 not sure -2 meets - 3.

The questionnaire II consisted of 2 parts. (Appendix – II)

Part I   Demographic data of the nurse

Part II  NDI (Nursing Dimension Inventory) which had 35 caring dimensions

Scoring was done using 5 point Likert scale.

Not at all important  1
Not important        2
Important            3
Very important       4
Very very important  5

**Content Validity**

To establish the content validity of the questionnaire (I & II), it was given to 5 experts. (Four nursing professors and 1 Medical professor). The suggestions given by the experts were accepted and the questionnaires were modified.
PILOT STUDY

A pilot study was conducted with a sample size of 10 physicians, 20 nurse administrators, 20 nurse educators and 20 staff nurses. For completion of the questionnaire I, it took 50 to 60 minutes for the individual. The second questionnaire which was given to the staff nurses, took 10 to 20 minutes to complete the questionnaire. Forty questionnaires were distributed and 32 were returned. The samples selected in pilot study were excluded from the main study. All the sample subjects found these questionnaire forms are understandable, clear and were able to complete them on their own. The only problem was getting back the questionnaire in time. So it was planned to give 20% extra questionnaire to the selected samples to get the required number of samples.

SAMPLE SIZE

Sample size determination for health professionals

One of the main objectives of the study was to find out the significant variation in the perception level by different groups of health professionals. In the pilot study, the mean perception scores on practitioner role among professionals were 54.5, 56.9 and 52.40 with the SD of 5.1, 3.9 and 5.8 respectively. In order to determine the sample size for the study, Eta-Squared was calculated to test the difference among professionals and it was found to be 0.035 with $\alpha = 0.05$ and power was 80%. For the Eta-Squared 0.035, the required sample size would be 90. i.e in each group 90 samples were selected.
**Sample Size Determination for Self Evaluation**

One of the objectives of the self evaluation was to find out the perception of nurses performance on PELCE roles. The percentage of perception score was calculated respectively for each role. The perception percentage on PELCE role was found to be 82%, 73%, 67%, 76% and 86% respectively. Hence the smallest percentage of perception on leadership role was selected to fix the sample size. The required sample size was calculated using the formula:

\[
\left( Z_{1-\alpha} \right) \sqrt{\frac{pq}{n}} = 10\% \text{ of } p
\]

With Type I error as 5% and Type II error as 10% (1-Type II error= 0.90), the required sample size was 189. So it was decided to select 200 staff nurses randomly, instead of a fixed sample size of 189.

**SAMPLING TECHNIQUE**

**Selection of Subjects from Selected Institutions**

**a. Sample of Physicians**

The name list was obtained from the authorities. The simple random sampling technique was used to select the physicians from the institutions. The criteria for selection of physicians were,

- Physicians working with registered nurses.
- Physicians who are willing to participate in the study.
b. Sample of Nurse Administrators

The proportion of nurse administrators was limited in the hospitals. Hence the entire nurse administrators from the hospitals were selected. The list was obtained from the officials and all the names were included.

The criteria for selection of nurse administrators were:

- The nurse administrator in first level supervision.
- The nurse administrator who is willing to participate in the study.

Sample of Nurse Educators

From the selected colleges and schools of nursing, the name list of teaching faculty was obtained and samples were selected by simple random sampling.

The criteria for selection of nurse educators were:

- The nurse educator in first level supervision of nursing students in the clinical setting.
- The nurse educator who is willing to participate in the study.

Sample of registered nurses

In each hospital, list of registered nurses was obtained and samples were selected using the simple random sampling technique.

The inclusion criteria for the samples were:

- Registered nurses working in the selected hospitals
- Registered nurses willing to participate in the study.
Final list of samples selected were:

<table>
<thead>
<tr>
<th>Health Professionals</th>
<th>Required Number of samples (Based on Pilot study)</th>
<th>No. of Samples selected (20% etc. Samples)</th>
<th>Final List of Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physicians</td>
<td>90</td>
<td>120</td>
<td>97</td>
</tr>
<tr>
<td>Nurse administrators</td>
<td>90</td>
<td>120</td>
<td>90</td>
</tr>
<tr>
<td>Nurse educators</td>
<td>90</td>
<td>120</td>
<td>113</td>
</tr>
<tr>
<td>Staff nurses</td>
<td>189</td>
<td>200</td>
<td>195</td>
</tr>
<tr>
<td>Total</td>
<td>459</td>
<td>560</td>
<td>495</td>
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</tbody>
</table>

**RELIABILITY**

The Guttmann split half method was used to ascertain the reliability of the questionnaire for practitioner, educator, leader, communicator and evaluator. From the obtained value of 0.869, 0.843, 0.854, 0.829 and 0.755 respectively, the questionnaire was found reliable.

**DATA COLLECTION PROCEDURE**

Permission was obtained for the study from hospital authorities of the selected institutions. Informed consent was taken from the selected samples. It was clearly stated that their answers would be used for research purpose, that the researcher would maintain the confidentiality of the information. The self administrated questionnaire I & II were given to the
subjects in person. They were asked to return the completed questionnaire within two weeks. To facilitate the acceptable return rate, extra samples were chosen and questionnaires given to them. Majority of the health professionals and staff nurses offered good cooperation and returned the forms. After returning the questionnaire, the subjects were thanked with a written letter.

STATISTICAL ANALYSIS

After the data collection, the data were tabulated and analyzed using descriptive and inferential statistical methods. The perception scores on PELCE roles were expressed by mean and SD. To compare the mean perception scores between the health professionals Kruskal – Wallis test was used.

To compare the mean perception scores by selected variables among health professionals, two-way ANOVA was used after the logarithmic transformation. For position of health professionals, one-way ANOVA was used. To identify the most important items on PELCE roles, Friedman multiple comparison test was used. For comparison of mean perception scores of staff nurses performance by demographic variables one way ANOVA and Scheff’e multiple comparison test was used. For all the above statistical tests, level of significance fixed was 5%.