

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

In view of the nature of the study the research design took the form of a survey, which was both descriptive and analytical. The descriptive survey approach was chosen in order to meet the primary aims of the study, allowing the researcher to describe the existing conditions in relation to continuing nursing education for nurses in the Critical Care Unit, which would lead to the development of future programs, thus attempting to meet the deficits identified by the survey data.

This method was supported by Oppenheim (1992) who described the survey approach as:

“A formal planned collection of data for the purpose of description of or predictions, as a guide for action, or for the purpose of analyzing the relationship between certain variables.”

3.1 Selection of the study area

The Critical Care Unit, of the Medical Center, University of Malaya, Kuala Lumpur was selected as the study area. One of the main objectives of this teaching hospital is to provide facilities of a high standard for in-patients and outpatients, and to serve as a major referral center, providing diagnostic and treatment services. Besides this, it also provides facilities for basic and post-basic training of nurses, and also facilities in the field of post-graduate and continuing medical education (Appendix 1).

This Critical Care Unit, with 11 beds, provides 24-hour patient care services and will continue to serve patients who are critically ill. The workload in this unit indicated

researcher.

3. It was seen as a relatively inexpensive method of obtaining data.
4. Less time was needed to gather data.
5. Respondents assured that their responses would be kept anonymous
6. The researcher's teaching contact with the teaching hospital would enable distribution and collection to be done with ease.
7. Respondents with whom the researcher had some contact would be more likely to complete and return the questionnaires.

The material for the questionnaire was obtained by:

1. a review of the literature
- 2 discussion with the researcher's fellow nurse educators of this teaching hospital

The writer had adapted Shahabudin's (1990) data collection instrument, based on her survey of continuing medical education in Malaysia, as well as from studies done by Mackereth (1989) and Nugent (1990) with minor modifications in demographic information. Validity and reliability of these tools were reported in the literature in the sources cited. Further advice on the design of the instrument was sought from an expert in Curriculum Development attached to the Faculty of Education, University of Malaya; another was from a Medical Educator with the Department of Medical Education, Faculty of Medicine, National University of Malaysia. Challenging the questionnaire to test its proposition was not an easy task; hence advice on issues of analysis and statistical interpretation of the items of the questionnaire was sought from the resource personnel from the Department of Social and Preventive Medicine, University of Malaya.

respondents;

- Section B - probing into the perception and attitudes of respondents towards continuing nursing education;
- Section C - comprising questions related to factors that foster motivation for participating in continuing nursing education;
- Section D - covering domains / specific content areas that nurses in the Critical Care Unit have least confidence in managing and the learning methods preferred.

The questionnaire with the above sections is shown in Appendix 4. For some of the statements, respondents were asked to indicate “Yes” or “No”. Other statements required the respondents to select the responses most appropriate for them or to write in the spaces provided whenever a free response was required. Some of the items were in the form of statements, with the degree of concurrence to be checked on a rating scale. The Likert-scale rating tool was used, as it was simple to use and easily understood.

Each questionnaire was accompanied by a letter, which outlined the aims and objectives of the study and also provided instructions on how the questionnaire was to be completed.

After the questionnaire was designed it was piloted on a representative sample of 5 nurses from the Critical Care Unit, before being adapted for use in the main study. Care was taken so that these nurses were not included in the main study. The pilot study was done to find out whether the nurses understood the questions and that they could answer them without difficulty.

3.4 Results of the Pilot Study

The pilot study had proven that there were no apparent inconsistencies in the test instrument. Likewise, there did not appear to be any error or ambiguity, which might have affected the respondents' interpretation of the questions. It did appear, however, that the order in which the questions were asked had caused some concern and that slight alteration in the chronology of the questions was necessary.

3.5 Data Collection

The hospital administrator which was the Director of the Medical Center, University of Malaya, Kuala Lumpur, was contacted by letter (Appendix 2) informing him of the purpose of the study and to obtain permission for conducting the survey. A copy of the letter was also sent to the Nursing Officer and Nurse Manager of the Critical Care Unit.

A brief explanation of the survey would be given, anonymity assured and gratitude expressed for their co-operation.

Having chosen the study sample and ensuring that all the criteria for the study were met, the questionnaire and letter explaining the purpose (Appendix 3) of the survey was delivered by hand to each individual nurse by the researcher with instructions to return the form within 2 weeks. To prevent the subjects returning a set of what they might consider being "acceptable" or "approved" replies, rather than their true feelings, subjects were assured that questionnaires would be kept anonymous. All nurses who took part in this survey were asked to complete their questionnaire independently without the help or involvement of other colleagues, so that an unbiased view could be obtained. After completion, all the questionnaires were collected for analysis.

of the questionnaire ensured that no more than 15 minutes would be taken to select and tick the appropriate responses.

Ultimately, the responses were favorable and 32 questionnaires were returned representing 89.5% of the total number of nurses working in the Critical Care Unit of this teaching hospital. There was no apparent unwillingness on the part of any respondents.

4.1: Data Processing and Analysis

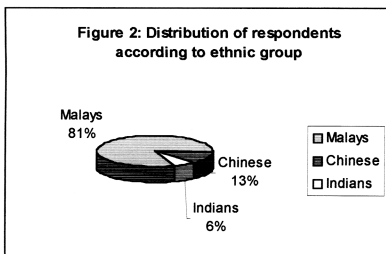
The statistical analysis in this study included simple frequencies and percentages. The computer was utilized to tabulate the data and to compute the statistics. For ease of presentation, percentages were rounded to the nearest 0.5 or whole number, therefore not all results would add up to 100%. The statistical package for behavioral sciences research called the *Statistical Package for the Social Sciences (SPSS)* was used to process the analysis. This statistical analysis and reporting program also included the Data Editor window, which provided a convenient, spread-like method for defining variables and entering data. SPSS could be used to record survey responses (Rodeghier, 1996).

This chapter presents and discusses the findings of the study as below:

- (i) Section 1 which deals with the personal data of the nurses in the Critical Care Unit;
- (ii) Section 2 which reveals the nurses' perceptions of continuing nursing education and their relevance to their current and future development;
- (iii) Section 3 which discusses the specific content areas / problems nurses feel they were lacking in terms of knowledge, skills and attitudes;
- (iv) Section 4 which reveals the preferred learning methods for continuing nursing

4.2.2. Distribution of respondents according to ethnic group.

In terms of ethnic composition, the sample consisted of 81.0% Malay nurses; followed by 13.0% Chinese nurses; and 6.0% Indian nurses. The respondents were from differing ethnic groups, as shown below in Figure 2.



4.2.3. Family obligations

The respondents' marital status and their family obligations are indicated in Table 1.

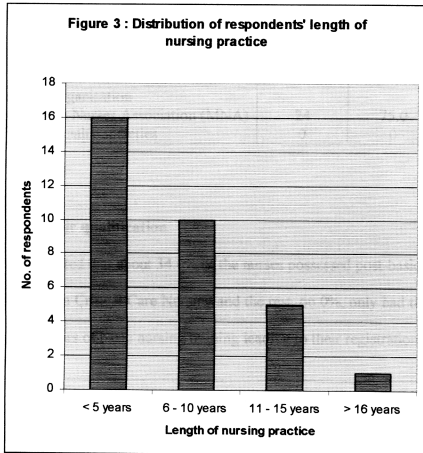
Marital status

The majority of the nurses, 65.5%, were married. The remaining, 34.4%, were single.

Number of children

Most of the nurses had either one or two children (47.6%) or three or four children (38.1%). Only 4.8% did not have any children and a fraction (4.8%) had five children.

Figure 3 shows that half the sample, 50%, had less than 5 years experience. 31.3% had 6-10 years whilst, 15.6%, had 11-15 years experience. Only 3.1% had more 16 years of nursing practice.



4.2.5. Membership of organizations

The organizations nurses were asked to indicate included the Malaysian Nurses' Association (MNA) and/or specialty societies. The findings are shown in Table 2. About one-quarter of the nurses did not belong to any professional organization and their participation in continuing nursing education was distinctly

4.3. SECTION 2: NURSES' PERCEPTION OF CONTINUING NURSING EDUCATION AND THEIR RELEVANCE TO THEIR CURRENT AND FUTURE DEVELOPMENT

This section reveals the findings to the first research question as stated in Chapter One which makes an inquiry at the Critical Care Unit nurses' perception of their learning needs relevant to their current and future development. The findings are presented in Tables 3, 4, 5, 6, 7, 8, 9, and 10.

4.3.1. Distribution of respondents to the importance of continuing nursing education

Table 3 shows that only 65.6% of the respondents rated continuing nursing education as very important. Majority of the respondents (90.6%) considered job satisfaction; whilst 81.3% felt that salary and another 75% revealed that working conditions in the Critical Care Unit were far more important than continuing nursing education.

Table 3: Distribution of respondents to the importance of continuing nursing education

Characteristics	Responses (n=32)			
	YES		NO	
	No.	%	No.	%
Job satisfaction	29	90.6	3	9.4
Salary	26	81.3	6	18.8
Working conditions	24	75.0	8	25.0
Continuing nursing education	21	65.6	11	34.4

4.3.2. Reading nursing journals

The habit of reading nursing journals is shown in Table 4. Majority of the nurses (56.3%), read journals only when looking up references; some 15.6% read some

continuing nursing education, which results in desired nurse behavior, becomes imperative.

Table 5: Participation of respondents in continuing nursing education activities.

Participation in continuing nursing education activities (seminars, workshops, conferences, etc)	Responses	
	Frequency	%
Yes	30	93.8
No	2	6.2
Total	32	100.0

4.3.4. Encouragement to attend continuing nursing education

About 53.1% of the respondents indicated that they did not receive sufficient encouragement from their Nurse Managers to participate in continuing nursing education activities. Their own keenness to participate was based on their own belief that each nurse is responsible for her own continuing education. The remaining 46.9% as shown in Table 6, below, indicated that they did receive sufficient encouragement.

Table 6: Encouragement given to respondents to attend continuing education activities

Encouragement to attend continuing nursing education activities	Responses	
	Frequency	%
NO	17	53.1
YES	15	46.9
Total	32	100.0

this section. Majority of the respondents (96.7%) are recipient participants. Only 33.3% are teachers/resource persons. This is shown in Table 8.

Table 8: Types of participation

Types of participation in continuing nursing education activities (seminars, workshops, conferences, etc)	Responses (n=30)			
	YES		NO	
	No.	%	No.	%
As a participant	29	96.7	1	3.3
As a teacher /resource personnel	1	3.3	29	96.7

4.3.7. Benefits of continuing nursing education

The respondents were asked to grade the benefits of attending lectures, seminars, or workshops either from their own nurses' association or other from other organizations sponsoring such activities, such as whether it leads to awareness of current trends in patient care and maintains professional competency. Again, only responses from those who answered "YES" to the earlier question on regular participation in continuing nursing education activities were analyzed in this section. Table 9 indicated that 86.7% of the nurse's felt that the activities were relevant to them and that they had learnt a lot from attending continuing nursing education. Majority of them (93.3%) evaluated that the sessions were well organized, conducted by experts and that they had enjoyed themselves.

activities were not opened to all of them. Reasons cited included shortage of staff to cover the unit, difficulties encountered with changing off-duty and some commented on the problem of obtaining study leave, or lack of available funds.

When asked about their frequency of attending continuing nursing education activities (for example courses, seminars, workshops), majority of the nurses, 59.4%, attended only once per year; 28.1% said they attended once every six months; 6.3% said they attended once every three months. Only 6.3% did not get to attend any at all in the previous year. This was because they were newly qualified nurses and had just joined the unit. Findings of this are indicated below in Table 10.

Table 10: Frequency of attending continuing nursing education

Frequency of attending continuing nursing education	Responses	
	Frequency	%
At least once a month	0	0.0
At least once every 3 months	2	6.3
At least once every 6 months	9	28.1
At least once a year	19	59.4
Never	2	6.3
Total	32	100.0

Majority of them, 62.5%, agreed that they should be fully sponsored by their employer. On the contrary, 37.5%, said they would not mind being sponsored partially by their employer.

4.4. SECTION 3: DOMAIN OF COMPETENCIES AND CONTENT

The findings in this section attempts to answer the second research question that has been stated in Chapter One, which reveal the learning domains / specific content

Table 11: Priority according to domains of competencies expressed as lacking by respondents

Domains of competencies expressed as lacking by respondents		Responses (n=32)			
		YES		NO	
		No.	%	No.	%
(i)	Advances /updates in knowledge in Critical Care Nursing	30	93.8	2	6.2
(ii)	Practical skills in new techniques /methods	30	93.8	2	6.2
(iii)	Medico – legal aspects	27	84.4	5	15.6
(iv)	Management in nursing	27	84.4	5	15.6
(v)	Skills in teaching others	27	84.4	5	15.6
(vi)	Problem-solving skills	26	81.3	6	18.7
(vii)	Communication skills	19	59.4	13	40.6

4.4.2. Areas of practice to monitor and improve

Structured specific competencies in the areas of practice that would help the nurses to monitor and improve themselves were addressed. An identification of specific competencies was an attempt to link the transmittal of scientific concepts through a program of continuing nursing education on the one side, to the development of the practitioners' competence and optimal health care on the other side. Since the nurses working in the critical care unit are always with direct patient care responsibilities, they were in the position to indicate the areas of practice that would help them in delivering quality care. The responses given by the nurses in this study are rank ordered in Table 12.

Table 12: Areas of practice respondents feel would help them to improve

Areas of practice respondents feel would help them to improve		Responses (n=32)			
		YES		NO	
		No.	%	No.	%
(i)	New nursing techniques	32	100.0	0	0.0
(ii)	Use of new equipment	31	96.9	1	3.1
(iii)	Cardio-Pulmonary Resuscitation	28	87.5	4	12.5
(iv)	Nursing care planning	28	87.5	4	12.5
(v)	Infection control	28	87.5	4	12.5
(vi)	Teaching skills	27	84.4	5	15.6
(vii)	Research appreciation & application	27	84.4	5	15.6
(viii)	Communication techniques	26	81.3	6	18.7
(ix)	Patient teaching	26	81.3	6	18.7
(x)	Counseling	21	65.6	11	34.4
(xi)	Fire training	21	65.6	11	34.4

The main emphasis of a continuing nursing education program should be directed towards the acquisition of new practical skills, updating of knowledge and reinforcement of problem-solving skills. Findings from this study indicated the needs to be given more attention.

4.5. SECTION 4: PREFERRED LEARNING METHODS

The findings in this section provides insight to the third research question that has been stated in Chapter One, which provides some answers to the learning methods preferred by the Critical Care Unit nurses for continuing nursing education. The findings are shown in Table13.

4.4.1. Identification of preferred learning methods

Majority of the nurses, 87.5%, expressed the group-method of learning activities; whilst 9.4% preferring the self-learning methods. The more specific nature of the activities preferred is ranked in Table 13.

Table 13: Preferred learning methods

Preferred learning methods	Responses (n=32)			
	YES		NO	
	No.	%	No.	%
(i) Listening to lectures, talks, seminars, conferences	32	100.0	0	0.0
(ii) Informal small group discussions	31	96.9	1	3.1
(iii) Reading books, journals	30	93.8	2	6.3
(iv) Consulting colleagues	24	78.1	8	21.9
(v) Teaching others	23	71.9	9	28.1
(vi) Viewing video tapes	21	65.6	11	24.4
(vii) Attempting self-learning packages	14	43.8	18	56.3

4.6. SECTION 5: FACTORS THAT FOSTER MOTIVATION

The findings in this section provides answers to the fourth research question of this study, which attempts to identify the factors that foster motivation for learning. The results are indicated in Tables 14, and 15.

4.6.1. Identification of factors that foster motivation

Only respondents from those who answered “YES” to the question on participation in continuing nursing education were analyzed in this section.

Reasons which motivated the nurses to participate in continuing nursing education activities are shown in Table 14. Majority of them (100.0%) indicated that their main reason is their desire to be kept up to date with nursing, whilst 80% said its also their desire to solve individual patient’s problems. Another 76.7% cited they derive stimulation by teaching others and 66.7% revealed that they had the opportunity to socialize with other nurses. It can be concluded that the main motivating force is professional followed by social and personal forces.

Table 14: Factors that foster motivation in participating in continuing nursing education activities

Factors that foster motivation in participating in continuing nursing education activities	Responses (n=30)			
	YES		NO	
	No.	%	No.	%
(i) Desire to be up to date	30	100.0	0	0.0
(ii) Desire to solve patients' problems	24	80.0	6	20.0
(iii) Stimulated by teaching others	23	76.7	7	23.3
(iv) Social contact with other nurses	20	66.7	10	33.3

4.6.2. Ways that would motivate nurses to participate in continuing nursing education

Majority of the nurses (90.6%) indicated that one of the ways would be to give credit for promotion. This is followed by 81.3% who said that nurses be awarded diplomas/certificates. Another 68.8% felt that management should make attendance compulsory. Half of them indicated that it should be made as a requirement for re-certification. Findings are shown in Table 15.

Table 15: Ways to motivate nurses to participate in continuing nursing education activities as suggested by respondents

Ways to motivate nurses to participate in continuing nursing education activities as suggested by respondents	Responses (n=32)			
	YES		NO	
	No.	%	No.	%
(i) Give credit for promotion	29	90.6	3	9.4
(ii) Award diploma / certificates	26	81.3	6	18.7
(iii) Make attendance compulsory	22	68.8	10	31.2
(iv) Requirement for re-certification	16	50.0	16	50.0