

CHAPTER III

RESEARCH METHODOLOGY

DESIGN ARCHITECTURE

The overall study design was a Cross-sectional Descriptive survey. The independent variables were personal factor, occupational stress factor and motivation factor; the dependent variable was burnout.

SAMPLE SPECIFICATION

Target population

The target population is intended to include those professional nurses who are working in Chulalongkorn hospital.

Sample selected

All the involved subjects were selected by using the following criteria;

Inclusion criteria

Professional nurses who give service directly to the patient.

Exclusion criteria

1. Professional nurses on leave.
2. Ward instructors.

Sample size

The sample size included all the professional nurses, in aggregate 882 target subjects.

OUTCOME MEASUREMENT

The outcome attributes being measured were:

Dependent variable:

- Burnout

Independent variables:

- Personal factor
- Occupational stress
- Motivation

INSTRUMENTATION

In order to gather the answers and to fulfill the objectives of the study, data was collected by using a questionnaire. The questionnaire formulation frame consists of 4 sections.

Section I: Demographic data

A comprehensive demographic data sheet was developed for this study by the investigators and the content validity was established using a panel of experts. The data sheet contained such variables as age, marital status, religion, educational level, years of experience, and specialty area.

Section II: Burnout

Burnout was measured through The Maslach Burnout Inventory. It is divided into 3 subscales: Emotional Exhaustion, Depersonalization, and Personal Accomplishment. The Maslach Burnout Inventory is composed of 22 items as follow:

Questionnaire Numbers

Emotional Exhaustion	1, 2, 3, 6, 8, 13, 14, 16, 20
Depersonalization	5, 10, 11, 15, 22
Personal Accomplishment	4, 7, 9, 12, 17, 18, 19, 21

The respondent rated each statement using a Likert-type continuum to indicate how frequently he or she has the feeling (range 0-5).

- 0 Never
- 1 A few times a year or less
- 2 Once a month or less
- 3 A few times a month
- 4 Once a week
- 5 A few times a week
- 6 Everyday

Section III: Occupational Stress

An investigator translated the questionnaire from Nursing Stress Scale. Stress was defined as an internal cue in the physical, social, or psychological environment that threatens the equilibrium of an individual (Appley and Trumbull, 1967; Lazarus, 1966). The Nursing Stress Scale (NSS) that was developed, was based on 34 potentially stressful situations that were identified from the literature and from interviews with nurses, physicians and chaplains. These items are shown in Appendix B. It is divided into 7 factors as follow:



Questionnaire Numbers

The Physical Environment

Factor VI: Workload 1, 25, 27, 28, 30, 34

The Psychological Environment

Factor I: Death and dying 3, 4, 6, 8, 12, 13, 21

Factor III: Inadequate preparation to
deal with the emotional needs
of patients and their families

Factor IV: Lack of staff support 7, 11, 16

Factor VII: Uncertainty concerning treatment 17, 26, 31, 32, 33

The Social Environment

Factor II: Conflict with physicians 2, 9, 10, 14, 19

Factor V: Conflict with other nurses and
supervisors 5, 20, 22, 24, 29

Four response categories were provide for each item : never (0), occasionally (1), frequently (2), and very frequently (3). Higher scores indicated greater occupational stress.

Section IV: Measure motivation factor

The researcher translated the questionnaire from Motivation Questionnaire (WHO, 1988). The questionnaire links to different types of satisfaction or dissatisfaction as defined by Maslow.

Sources of Job Satisfaction/ Dissatisfaction	Questionnaire numbers
Survival/personal maintenance	1, 2, 3
Security	4, 5, 6
Companionship	7, 8, 9
Quality and style of supervision	12, 13, 16, 17, 18
Quality of work	26, 27, 28, 35
Status	10, 11, 22, 23, 24, 25
Recognition	14, 15, 19, 20, 21
Autonomy	29, 30, 31, 32, 33, 34

Four response categories were provided for each item: Great dissatisfaction (1), Some dissatisfaction (2), Some satisfaction (3), and Great satisfaction (4).

VALIDITY AND RELIABILITY TEST

Once the translation is done, however, there is little assurance that the psychometric properties of the scale (i.e., its reliability and validity) have remained constant. It is therefore necessary to revalidate the instrument, as if it were a new one.

To establish content validity experts were asked to comment on the clarity and completeness of the questionnaire, and also, formal tests of linguistic clarity were used to test whether the phrasing of the questions was clear.

Reliability is a stability characteristic of instrument (questionnaire). There are many techniques to measure the reliability such as split-half technique, parallel form method, etc. But the technique considered appropriate for this study was the test-retest method, to test, that if the measurement was applied a second time to the same respondent, whether the same result was obtained. The test-retest method was used to confirm the reliability of questionnaire with the following criteria.

- The sample that was used for retesting should be the same group of the previous test.
- The time between test and retest should not be too long, since time may change the attitude that we want to measure or it should not be too short because responder may be able to memorize question that he had answered the first time.
- After test and retest, both scores were used to calculate by using intraclass correlation. r close to 1, means this questionnaire has high reliability. In practice, researcher may accept the instrument which has $r > 0.70$.

For reliability test in this study 30 samples were used, of which 5 with missing information were eliminated. Finally the reliability study analysed the data for 25 nurses.

Data of test-retest reliability of the questionnaire have been reported for, twice. For a sample of nursing instructors in Chulalongkorn hospital ($n = 25$), the two test sessions were separated by an interval of two weeks. The test-retest reliability coefficients analysed by using intraclass correlation for each questionnaire were the following: 0.94 for Maslach Burnout Inventory; 0.81 for Nursing Stress Scale; and 0.91 for Motivation questionnaire.

DATA COLLECTION

This study involved various wards. Therefore, it was necessary to ask for co-operation. The investigator was required to obtain permission of the institutional review board, and the director and nurse managers at the study sites. Nurses who were eligible for participation were sent a questionnaire containing a covering letter (Explaining the study, inviting participation and assuring confidentiality). The return of the completed questionnaire was interpreted as voluntary, informed consent, to participate.

The questionnaire overall return rate was thus 90.2% (see Table 3.1).

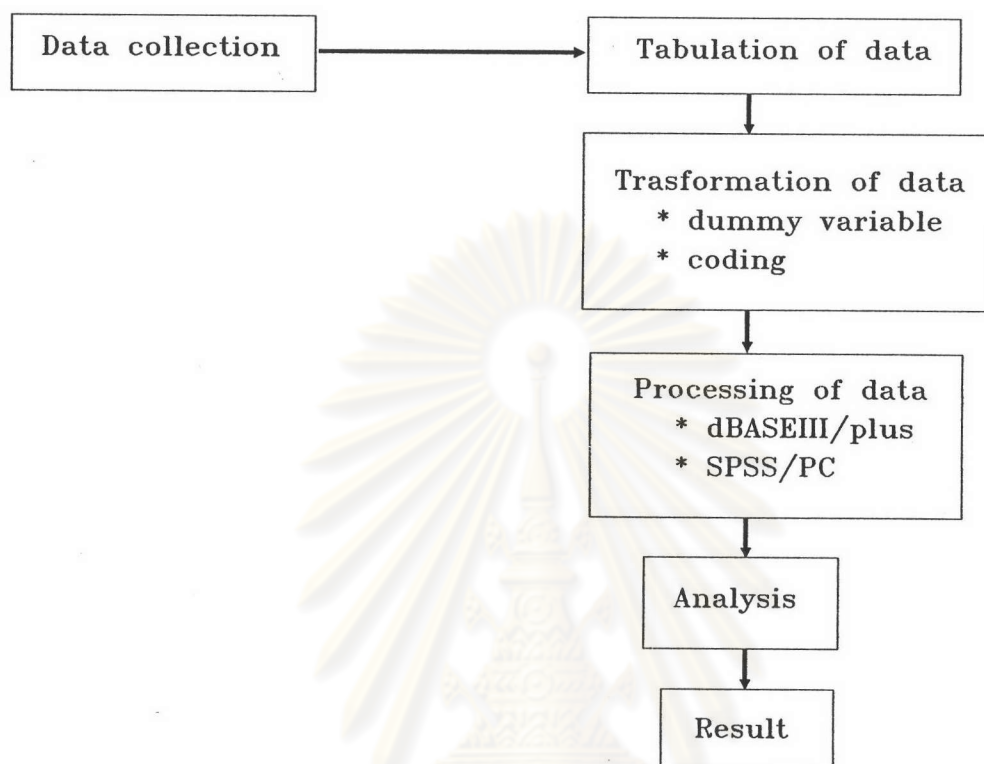
Table 3.1: Response Rate of Questionnaire in each department

Department	Case	f	%	Response Rate (%)
Out Patient	148	146	18.4	98.65
Medicine	133	122	15.4	91.73
Surgical	81	62	7.8	76.54
Operational	68	56	7.1	82.35
Intensive Care Unit	82	54	6.8	65.85
Neurological	50	48	6.0	96.00
EENT	13	13	1.6	100.00
Orthopedics	21	21	2.6	100.00
Rehabilitation	1	1	0.1	100.00
Radiological	33	33	4.2	100.00
Obstetric and Gynecological	187	178	22.4	95.19
Pediatrics	65	60	7.6	92.30
Total	882	794	100	90.02

DATA PROCESSING AND ANALYSIS

On completion of data collection, data processing is an integral part of the study. Figure 3.1 shows the steps of data processing. Using the coding system, the encoded data was entered into the data base program (dBASE III/Plus) and converted for analysis by SPSS program (Statistic Package for the Social Science). Statistics used in this study for the first outcome were descriptive statistics. Summarization of the data was in mean and proportional parameters.

Figure 3.1: Data processing steps



The three subscales of burnout -emotional exhaustion, depersonalization and personal accomplishment- served as the dependent variables in the regression analysis, while the personal data, occupational stress and motivation measures were the independent variables. All the predictor variables of occupational stress and motivation (see Table 3.2) were entered into the regression equation in a stepwise fashion. This allowed for the predictor which accounted for the most variance in the criterion to enter first, and the subsequent predictor to enter after. It accounted for additional significant variance. An F-ratio was used to determine if each entering predictor accounted for a significant increase in explained variance in the criteria. By entering all background variables at step one, followed by the predictor variables at subsequent steps, one can determine the amount of variance in burnout accounted for by personal data, occupational stress and motivation after controlling for the variance attributable to the background variables.

Table 3.2 : Variables entered into stepwise multiple regression

1. Death and dying
2. Conflict with physicians
3. Inadequate preparation
4. Lack of staff support
5. Conflict with other nuresse and supervisors
6. Workload
7. Uncertainty concerning treatment
8. Survival and personal maintenance
9. Security
10. Companionship
11. Quality and style of supervision
12. Qualuty of work
13. Status
14. Recognition
15. Autonomy
16. Experience
17. Working extra job
18. Salary
19. Working overtime in ward

The second outcome of this study is measured in terms of magnitude of association between predictor variables and three subscales of burnout. Thus the result can be expressed simply in terms of multiple correlation coefficient, R and R^2 . F test was computed for sinificance of the multiple correlation coefficient. Multiple correlation analysis technique, is a modified version of forward regression that permits reexamination, at every step of the variable incorporated in the model in previous steps. It is one of the approaches to multiple regression calculation.
