Chapter-IV
METHODOLOGY

This chapter includes the sample studied, tools used, procedure (data collection), scoring and statistical techniques used.

4.1. Sample

A sample of 65 nurses in the age group of 27 to 50 years, having a minimum experience was 5 years in the profession was selected from Indira Gandhi Medical College, Din Dayal Upadhayay, and Kamla Nehru Hospitals. All the participants were full time regular nurses. The mean age of the nurses was 36 years and 1 month (SD=5.87). All the nurses had minimum qualification of Diploma in General Nursing Management. All the nurses were married and had a middle class background.

Control Group

This group comprised of 65 non-nursing female staff who provided support to the diagnostic and administrative service to the hospital with only incidental contact with patients visiting the hospital. They were full time employees with minimum 5 years of service. The controls were matched with the nurses so as to have similar distribution of age range (25 to 35 yrs; 36 to 45 yrs and 45+ yrs). The mean age of control group was 36 years and 1 month (SD=6.28). These control group subjects were matched with nurses in terms of occupational status, marital status, age, gender, and socio-economic background.

Rapport was established with the subjects to gather detailed information about them and responses were recorded on the structured questionnaire. The respondents were assured of anonymity and confidential nature of the data.

4.2. Tools Used

4.2.1. The Job Stress Survey (Job Stress): (Appendix-I)

The Job Stress Survey (JSS) (Spielberger, 1994; Spielberger and Vagg, 1999) psychometric instrument comprised of 30 items that describe specific sources of stress that are commonly encountered in workplace. Items describing a number of general sources of stress commonly experienced by managerial, professional, and clerical employer in a variety of occupational settings were selected
to form a job stress measure. The JSS was designed to assess the perceived intensity (severity) and frequency of occurrence of working conditions that are likely to adversely affect the psychological well-being of employees who are exposed to them (Spielberger, 1994).

The format for responding to the JSS severity scale is similar to the procedure employed for rating stressful life events with Social Readjustment Rating Scale (Holmes and Rahe, 1967). Subjects first rate on "9-Point" scale, the relative amount (severity) of stress that they perceive to be associated with each of the 30 job stressors (e.g. "excessive paperwork", "inadequate support from supervisor", "working overtime"), as compared to a standard stressor event, "assignment of disagreeable duties", which was assigned value of "5".

The Job Stress Survey takes into account the state-trait distinction that proved important in the assessment of anxiety (Spielberger, 1972; 1983) by requiring respondents to indicate how frequently a stressor event was experienced during the past 6 months. After rating the perceived severity of each stressor as compared to the standard, respondents are asked to report, on a 10-point scale ranging from 0 to 9+, the number of days on which each workplace stressor was experienced during the preceding 6 months. Thus the two ratings for each of the 30 JSS items provide useful information in regard to the perceived severity of each stressor, and how often the stressor event was experienced.

Alpha Coefficient for the Job Stress Survey Index (JSS) was reported by Spielberger and Reheiser (1994b) to be very high for the total sample of females and males (.90 and .89) and sub-samples of females and males managerial/professional personnel (.88 and .87) and clerical/maintenance personnel (.91 and .92). Turnage and Spielberger (1991) reported significant relationship of JSS with locus of control (r=-.18, P<.001) and the validity of the JSS.

Hindi version of JSS with format similar to that of English version by (Spielberger, 1994; Spielberger and Vagg, 1999) was used in the present study. The items were translated from the original JSS following the standardized translation strategies (Spielberger and Sharma, 1976) with the help of lecturers of Hindi and English Department of H.P. University.
4.2.2. Hindi Version of State-Trait Anger Expression Inventory (STAXI): (Appendix-II)

The STAXI (Spielberger, 1988; Spielberger, Jacobs, Russell and Crane 1983; Krishna, 1988; Rana, 1990) used in this study comprised of 34 items yielding 4 different scores. These 4 scales of STAXI are: (i) T-Anger - the individual differences in the disposition to experience anger; (ii) AX/In - the frequency with which angry feelings are held or suppressed; (ii) AX/Out - how often an individual expresses anger towards people or individual in the environment; and (iv) AX/Con - frequency with which an individual attempts to control the expression of anger.

Anger Expression (AX/EX) is based on 24 items and provides a general index of the frequency that anger is expressed, regardless of the direction of the expression and is based on AX/In, AX/Out, and AX/Con subscales of the AX/Scales.

The Hindi version of Anger Expression Scale (AX/In, AX/Out and AX/Con) and the total STAXI have been developed by Krishna (1988) and Rana (1990) respectively on bilingual subjects. The alpha reliability of English version of AX total, AX/In, AX/Out, AX/Con is .96, .90, .93, .88 (males). Similarly for females these values in the corresponding order are .91, .85, .70, .88 respectively. The alpha reliability of Hindi scale in respect to total AX, AX/In, AX/Out, AX/Con are .89, .88, .62, .82 (females) and .96, .92, .92 and .82 (males) respectively. These significantly high alpha values prove that both Hindi and English test items are quite homogenous in their contribution of variance to the total STAXI scale scores. These highly significant alpha co-efficients also established the internal consistency of both Hindi and English versions of STAXI and Anger Expression (AX/EX) scales for males and females separately. Cross language equivalence of both versions is fairly well-established. Hindi STAXI can be used for research in India and subsequent comparison of the findings with those obtained on English speaking population.

4.2.3. Hindi Version of Beck's Depression Inventory (BDI): (Appendix-III)

The Hindi version of the Beck's Depression Inventory (Kaur, 1994) is used for measuring attitudes and symptoms associated with depression. It is a 21-item scale with the total score ranging from 0 to 63. The original scale (Beck, Ward, Mendelson, Mock and Erbaugh, 1961) is also a 21-item scale.
The BDI is reported to possess adequate internal consistency (Vrendenburg, Krames and Flett, 1985; Upmanyu and Reen, 1990; 1991). The psychometric characteristics of this questionnaire have been well documented in the Indian setup (Upmanyu and Singh, 1984; Kumar, 1990; Upmanyu and Reen, 1990, 1991; Upmanyu, Upmanyu and Dhingra, 1993). Kumar (1990) reported that the alpha co-efficient of the BDI was .88.

4.2.4. Functional Social Support Questionnaire (FSSQ): (Appendix-IV)

An 80 item, self administered, Functional Social Support Questionnaire (FSSQ) has been developed to measure availability of support from various organizational (work related) and extra-organizational (non-work) sources. These items refer to what other people do (the function they perform) rather than only the existence of other people in social structure. There are two sections in questionnaire. The first section measures extra-organizational sources of support which include support from family, friends, and spouse. The second section of questionnaire aims to measure organizational sources of support which include support from co-worker and supervisor/immediate officer. Further each scale consists of 3 subscales which measure 3 types of social support viz. emotional support, informational support and instrumental support are classified by Cohen and Wills (1985).

In the present scale all the .80 items were found to be significant at .01 level. The score of friend support range from 15 to 60, spouse support range from 16 to 64, family support range from 16 to 64, co-worker support range from 16 to 64 and supervisor/immediate officer support range from 17 to 68. The internal-reliability of the FSSQ was measured by using the Chronbach's alpha co-efficient method for the groups of about 200 people working at Diesel Locomotive Works (D.L.W.) Varanasi, including managers and professionals. The reliability co-efficients was found to range between 0.68 to 0.98. All the inter correlations are positive and significant at 0.01 level, showing evidences of convergent validity (Campbell and Fiske, 1959).

4.2.5. The Maslach Burnout Inventory (MBI): (Appendix-V)

(Maslach and Jackson, 1986) The Maslach Burnout Inventory (MBI) is used for measuring burnout associated with human service professionals who do "people work". The MBI used in this study comprised of 22 items yielding three
different subscales that assess the different aspects of experienced burnout in terms of emotional exhaustion, depersonalization and personal accomplishment. Each aspect is measured by a separate subscale. The emotional exhaustion subscale assesses feelings of being emotionally over extended and exhausted by one’s work. The depersonalization subscale measures an unfeeling and impersonal response toward recipients of one's service, care, treatment or instructions. The personal accomplishment subscales assess feelings of competence and successful achievement in one's work with people.

The three subscale of MBI provides a general index of frequency that is, how often one has these feelings and intensity that is, how strong one has these feelings. The subjects are asked to describe the frequency of experienced feelings with the help of 4-point scale that is never, very mild, barely noticeable, moderate, and very strong.

Extensive normative data are available, with internal consistency and temporal stability reported to be good (Maslach and Jackson, 1986). Numerous studies have been supported the validity of the burnout scales (Golembiewski and Munzenrider, 1981; Iwanicki and Schwab, 1981; Maslach and Jackson, 1981b; Belcastro, Gold and Hays, 1983). The split half internal reliability co-efficients have been reported at 74 for the combined intensity-subsccales (Maslach and Jackson, 1981a).

Hindi version of MBI (Arora, 2002) with format similar to that of English version by (Maslach and Jackson. 1986) was used in the present study. The inventory was also translated following the standard international procedure.

4.3. Data Collection/Procedure

Each scale was administered to the subjects individually. The scales were administered according to standard instructions and arranged in the following order (i) The Job Stress Survey (JSS), (ii) The State Trait Anger Expression Inventory (STAXI) (iii) Beck's Depression Inventory, (BDI), (iv) Functional Social Support Questionnaire (FSSQ). and (v) The Maslach Burnout Inventory (MBI). The cover sheet of the scales elicited the demographic data about age, sex, educational qualification, occupation, and length of service. The standard instructions pertaining
to each scale were followed by the subjects who responded to the test items. Subjects were assured that their results would be kept confidential and would be used only for research purpose.

4.4. Scoring

4.4.1. Scoring of Job Stress Survey

The JSS Severity and Frequency scores are computed by simply summing the ratings of the individual JSS items yields a separate severity (JSS-S) and frequency (JSS-F) scores based on 30 stressors events/items, and dividing this total by 30. The Stress Index scores (JSS-X) are obtained by multiplying the severity and frequency ratings for each item. The overall JSS Index score is determined by summing the Index scores (cross-product) for all 30 JSS items and dividing the total by 30. This yields a score of minimum 1 and a maximum score of 81. The higher the score the more a person is stressed by the job.

4.4.2. Scoring of STAXI Scales

This scale of 34 items yielded 4 scores. This S-Anger scale was not included in this study. The scales of STAXI assess the intensity of angry feelings at particular time and the individual differences in the tendency to express anger. T-Anger scale comprised 10 items and Anger Expression scales comprised 8 items each.

- T-Anger : 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
- Anger-In (AX/In) : 23, 25, 26, 30, 33, 36, 37, 41
- Anger-Out (AX/Out) : 22, 27, 29, 32, 34, 39, 42, 43
- Anger-Con (AX/Con) : 21, 24, 28, 31, 35, 40, 44

The scores on each item corresponded to the number encircled on the test form. Thus, the item score varies from 1 to 4. The score on T-Anger, AX/In, AX/Out, and AX/Con scales are computed by summing the column scores for each scale. The range of possible score for T-Anger varies from a minimum of 10 to the maximum of 40 and range of possible scores for the 3 Anger Expression Scale (AX/In, AX/Out, AX/Con) varies from 8 to 32.
Subjects high in T-Anger frequently experienced angry feelings and often felt they were unfairly treated. Subjects with high AX/In scores frequently experienced intense angry feelings, but suppressed these feelings. However, some persons high in AX/In may also have high AX/Out scores in which case they may express their anger in some situations and suppress them in others. Subjects with high AX/Out scores frequently experienced which they expressed in aggressive behaviours towards other people or objects. The subjects with high Ax/Con scores work towards preventing the experience and expression of anger.

4.4.3. Scoring of Beck's Depression Scale

The Beck Depression Inventory is a 21-item scale. Each item is scored from 0 to 3 and all items are summed to produce a total score that may range from 0 to 63, higher scores indicate greater severity of depressive symptomatology. A typical item is as follows:

0  -  I can sleep as well as usual.
1  -  I wake up more tired in the morning than I used to.
2  -  I wake up 1-2 hours earlier than usual and find it hard to get back to sleep
3  -  I wake up early everyday and cannot get more than 5 hours sleep

4.4.4. Scoring of Functional Social Support Questionnaire

The questionnaire consists of both true-keyed and false-keyed items. Two different patterns of scoring have been adopted for two types of items. The scores have been obtained by arithmetic summation of true-keyed and false-keyed response. True-keyed and false-keyed scores are as:

Extra-organizational (Non-Work) Sources of Social Support

1. Friends' Support (Total = 15)
   1, 4*, 7*, 8*, 11*, 14*, 3*, 5, 10*, 12, 2, 6, 9, 13*, 15

2. Spouse Support (Total=16)
   1, 4*, 8, 9, 11*, 12*, 14*, 15*, 16*, 3*, 6, 7*, 2, 5*, 10, 13

3. Family Support (Total=16)
   1, 2, 3, 5, 6, 8*, 13*, 16*, 9*, 10, 12*, 14, 4*, 7, 11, 15*
Organizational (Work-related) sources of Social Support

4. Co-worker Support (Total = 16)
   1*, 2, 3, 5*, 8*, 12*, 4, 9*, 10*, 14, 16*, 6*, 7, 11, 13, 15*

5. Supervisor/Immediate officer support (Total = 17)
   1, 2, 3, 5*, 7*, 8, 11*, 12*, 15*, 17, 6, 9, 10*, 13, 4*, 14*, 16

* Denotes false keyed scores.

Scoring for true-keyed item was made as 1, 2, 3, 4 and for false-keyed items was made as 4, 3, 2, 1. The summation of all scores together provided the total functional social support scores.

4.4.5. Scoring of Maslach Burnout Inventory

This inventory of 22 items yielded 3 scores. The Emotional Exhaustion subscale comprised of 9 items, Depersonalization subscale comprised of 5 items, and Personal Accomplishment subscale comprised of 8 items.

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

A 4-point scale was used to obtain responses to the statements of MBI. These four categories are (i) Never (ii) Very mild barely noticeable (iii) Moderate, and (iv) Very strong. Each respondent’s test form is scored by using a scoring key which contains directions for scoring each subscale. Numerical cut-off points are given for three subscales. In this inventory there are 14-positive items which are scored directly and 8 negative items which are reversed while scoring. For positive items 1, 2, 3, 6, 8, 13, 14, 16, 20, 5, 10, 11, 15, 22 weightage of scores will be given 1, 2, 3. For negative items 4, 7, 9, 12, 17, 18, 19, 21 weightage of scores will be given 3, 2, and 1.

A high degree of Burnout is reflected in high scores, on the Emotional Exhaustion and Depersonalization subscales and in low scores on the Personal Accomplishment. An average degree of Burnout is reflected in average scores on the three subscales. A low degree of Burnout is reflected in low scores on the Emotional Exhaustion and Depersonalization subscales and in high scores on the Personal Accomplishment subscales.