Chapter Three

METHODOLOGY

The present investigation was conducted to examine "A Study of Happiness, Hope and Health Behavior among Coronary Artery Disease (CAD) and Cancer Patients." The concept of methodology includes four aspects, namely, subjects, tools, procedure and data analysis. These four aspects of overall research methodology can be thought of as forming a case for execution of the present study. Additionally, the methodology provides detailed information about how the subjects were selected for the study, which procedure was used in the study, the description of the participants, and the measures used.

3.1. Research Design

The main function of research design is to provide information for the collection of relevant evidence with minimal expenditure of effort and time. It depends mainly on the research objectives and questions. In order to answer research questions set in chapter one, the present investigator had adopted analysis of Variance (two-way ANOVA) in which 2x2 and 2x4 factorial design was made to do proper analysis.

3.2. Subjects

The subjects for the present study consisted of 400 patients. Of these, 200 were Coronary Artery Disease (CAD) patients and 200 Cancer patients. Patients were drawn from the Out Door Patients (OPD) of the Chhatrapati Shahuji Maharaj Medical University, Lucknow Cancer Institute and Nishat Hospital, Lucknow (U.P. INDIA) and Jawahar Lal Nehru Medical College and Hospital, Aligarh Muslim University, Aligarh. (U.P.INDIA).

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The sample was divided in terms of the variable of gender, i.e., males and females. Under the cancer group, there were 100 males and 100 females. The age range of the patients was from 50-70 years.

The sample was further divided on the basis of different stages of cancer. The stage of a cancer is a description of the extent, the cancer has spread. The stage often takes into an account of the size of a tumor, how deeply it has penetrated, whether it has invaded adjacent organs, how many lymph nodes it has metastasized to (if any), and whether it has spread to distant organs. Staging of cancer is the most important predictor of survival and cancer treatment is primarily determined by staging. The sample was further divided into 4 stages of cancer. Stage I in which cancers are localized to one part of the body, stage II in which cancers are locally advanced, stage III where again the cancers are locally advanced and stage IV in which cancers have often metastasized or spread to other organs or throughout the body. There were 25 males and 25 females in each group. The subjects taken for the study had cancers of the lung, breast, prostate, bladder and skin.

The Coronary Artery Disease (CAD) group consisted of 100 males and 100 females. The sample was further split on the basis of the different types of Coronary Artery Disease i.e. Angina Pectoris, Myocardial Infarction, Cardiac Arrhythmia and Congestive Heart Failure. There were 25 males and 25 females in each group.
Fig. 3.2.1. Break-up of Subjects

200 Cancer

100 male

25 Stage 1
25 Stage 2
25 Stage 3
25 Stage 4

100 female

25 Stage 1
25 Stage 2
25 Stage 3
25 Stage 4

Fig. 3.2.2. Break-up of Subjects

200 CAD

100 male

25 Angina Pectoris (Myocardial Infarction)
25 Congestive Heart Failure
25 Cardiac Arrhythmia

100 female

25 Angina Pectoris (Myocardial Infarction)
25 Congestive Heart Failure
25 Cardiac Arrhythmia
3.3. Tools

To measure and understand human behavior psychological tests are developed and used. It is a matter of fact that there is not a single tool or psychological instrument which may tell about all aspects of behavior because of complex and varying psycho-emotional attributes of personality. Hence, there is a need for developing psychological instrument for each specific purpose. Questionnaires since long have been most convenient tools in psychological researches. In the present research work, the following tools were used for the purpose of obtaining the information about psychological factors, those playing important roles in the live’s of cancer and CAD patients.

3.3.1. Affectometer-2

Affectometer-2 was developed by Kamman and Flett (1983). It consisted of 40 items: 20 positive and 20 negative, half represented as sentences and half as adjectives. Respondents rate how well the items apply to themselves on a five point Likert scale ranging from ‘not at all’ to ‘all of the time’. Responses to negative items are summed and subtracted from the sum of positive items, reflecting the scale’s underlying theoretical principle that mental health status is determined by the degree to which positive feelings and attributes outweigh negative ones. Test-retest reliability of the scale was found to be 0.80 while a coefficient of alpha of 0.95 is reported with a median item total correlation of 0.57.

3.3.2. The Adult Hope Scale

The Adult Hope Scale developed by Snyder et al. (1991) was used to measure the disposition of hope among cancer and coronary artery disease patients. The scale consisted of eight hope items plus four fillers. The subjects have to rate their responses on
a 4-point Likert scale or 8-point Likert scale on a continuum of definitely false (1) to definitely true (4 or 8). There are two domains, the agency and the pathways. Four (4) items reflect the agency, the overall successful sense of goal related determination of the past, the present and the future 4 items reflect the pathways, people’s cognitive appraisals regarding their ability to generate ways of overcoming obstacles related to the goals and ways of achieving the goals. The remaining 4 items are fillers. Hope is calculated by taking the sum of the 4 pathways and 4 agency items. The 4 filler items are not used for scoring. Total possible score is 48. For the total scale Cronbach’s alpha’s ranged from .74 to .84. For the agency subscale, alpha = 0.71 – 0.76, for the pathway subscale, alpha =0.63 – 0.8. The Hope Scale possesses acceptable internal consistency and temporal stability.

3.3.3 Health Care Scale

Health behavior was measured by Health Care Scale developed by Adhami and Kureshi (1992). The scale comprised of 30 items, 15 were representative of health consciousness and 15 of health carelessness. Each item has five response categories, ranging from ‘strongly agree’ to ‘strongly disagree’ with intermediate columns as ‘moderately agree’ to ‘strongly disagree’. The listed items were placed in random order to avoid any guessing on the part of the subjects.

The scoring of items was done as follows:

The items which were representative of health consciousness would get a score of ‘5’ if answered “strongly agree” and “1” if marked “strongly disagree”. Other intermediate responses would get scores accordingly. The items reflecting attitudes of carelessness towards health would be scored in reverse order i.e., “strongly disagree”
would get a score of ‘5’ and “strongly agree” a score of ‘1’. The maximum score that an individual can get on this questionnaire is 150 and the maximum is 30.

3.3.4. Personal Data sheet

Personal data sheet includes information related to patient’s name, age, gender, type of disease, duration of illness, address and contact no. as stated in Appendix.

3.5. Procedure

Prior to data collection, the investigator explained the purpose of the study to the subjects. The investigator established rapport with the respondents (patients) and assured them that their responses would be kept strictly confidential and would be utilized for the research purpose only. After establishing rapport with the respondents, the data were collected individually according to their convenience. Three Scales along with the personal data sheet were administered to cancer and coronary artery disease (CAD) patients. The data collection period took almost one year. It was very crucial and painful especially with Cancer patients.

3.6. Data Analysis

Data were analyzed by using statistical package for Social Sciences (SPSS) version 16.0. In order to answer research questions set in chapter one, the present investigator used 2x2 and 2x4 factorial designs Analysis of Variance (two-way ANOVA). Scheffe test was used for examining mean differences between cancer patients of different stages and types of CAD patients.