CHAPTER-3

Problems and Methodology

3.1 Introduction

The first two chapters have helped us to develop the skeleton of the research work by giving a basic understanding of various aspects of the study and also by critically analyzing previous work done in this field. The third chapter of “Problem and Methodology” provides the musculature and the functional form of the research.

The contribution of the research in the development of the human life is very important. The more man developed the more his requirements increased. These requirements had satisfied by new inventions of research and their practical use. To keep pace with the fast changing conditions of the world, the society and remain tanned with them researches are very necessary. For this even Government is trying in a big way. The Government is continuously trying these days to expand the scale of research.

It is the specialty of individuate that he is trying to understand the environment preceding him. For this reason, he has to do research work. By which he can fulfill requirements non-scientific research doers waste the time and money. The use of the word research is amide in the context of scientific research. J.W.Best, writes: “More systematic and in depth use of the scientific method of the analysis.” only is research Best writes farther: “One person may be a scientist without doing any research but nobody can do research without being a scientist.”

The word research has derived from the French language word “Research” that means to see, to look, to investigate etc. The word research in English language is a made out of two words Research. The meaning of which is to search again or to make inquiry about some event. One meaning of research is to search. Other meaning of research is to search repeatedly. Moreover, because of that it is said “to research is to search again.”

Every scientific works need logical and statistical basis to their study. All the raw data or information gathered through the study process provide knowledge, but it is defined as a scientific work only when this data is statistically worked out to give the specified hypothesis some concrete conclusion. All the methods and processes used to convert the observations and collective data into scientific results and all the processes used to accomplish the research study is discussed in this chapters.
3.2 Statement of Problem.

As per present conditions, the patients having cardiovascular diseases with any hidden psychological morbidity increasing the chances of mortality in cardiac patients. In the practice of clinical psychology there are number of cardiac patients who meet the criteria of anxiety, depression, stress and other psychological condition. In light of scarcity of the work done on the subject in this country, present effort is intended to go further in depth on the subject. The psychological consequences of the cardiovascular disease are known as an affect recovery and quality of the life. Anxiety and depression are common consequences of sudden cardiac episode associated with coronary heart disease and cardiac arrhythmia. However, illness coping behaviors have a major influence on adherence to subsequent treatment and illness recovery implantation of cardiac defibrillators, and some side effects of pharmacological therapy are also associated with adverse psychological effects. Psychological interventions that have been used primary and secondary prophylaxis for cardiovascular disease in adults, and interventions to reduce the psychological morbidity associated with cardiovascular disease.

Several studies have demonstrated that the cardiac episode or events, like a myocardial infarction can even be traumatic experience and may lead to the development of a posttraumatic stress disorder. A cardiac episode and its treatment, like implantation of an implantable cardioverter defibrillator or heart transplantation, have the potential to be psychologically traumatic as they might convey life-threat and connote danger of disability and the death. However, a cardiac event usually happens unexpectedly and makes the patients fell powerless, which can the result in extreme fear, helplessness.

The problem of the said study has been starts in words in this way.

“Psychological morbidities in patients with cardiovascular disease”

3.3 Aims of the Study

The aims of the said research are as follows:

- Identifying the role of clinical psychologist in the evaluation process of patient with cardiovascular disease
- Description of the psychological condition in patient with cardiac disease
- To study of emotional distress in cardiac patient
- To study of attitude and beliefs regarding psychological morbidity
- To study of automatic thoughts regarding psychological morbidity
3.4 Hypothesis of the research.

The following hypothesis have been formulated in the present study

- Ho1 Patient with cardiovascular disease presents a maladaptive profile regarding emotional distress, negative automatic thoughts, cognitive schemes, attitudes and beliefs.
- Ho2 There will be no significant difference between government setup and private setup.
- Ho3 There is significant mean deference between age of patients and duration of illness.
- Ho4 There will be no significant difference in male or female patient.
- Ho5 There will be significant correlation between anxiety and quality of life.
- Ho6 There will be significant correlation between automatic thoughts and cognitive schemas.
- Ho7 There will be higher rate of unrecognized anxiety and depression in cardiac patient.

3.5 Research Variables

The worldly meaning of Variables is to make Vary or to become varied changed. The Variation in the degree of Variable is a necessary characteristic of the Variable. Some Person, thing, event, some Characteristics, symptoms or condition said to be Variable. In which two things are seen the first one is that in which change in degree is possible and if can be measured. The other fact is gets affected or can affect the both.

3.5.1 What is Variables?

Several Psychiatrists have given the definition of Variable as under:

“Any measureable quality or characteristic of things, events or individuals is called Variable.”

D.Ameto (1970) “Variable is such a characteristic in which there can be values of many types.”

Postman & Egan (1966)

- Variable is such that may have different values.
- Variable is that which varies. That which can vary is Variable.
Variable is that Quality to which value can give.
Any characteristic of Person, Team or Environment, which can change, recognized as Variable. For example age, sex, intellect, achievement, attitude, income etcetera are Variable.

3.5.2 Independent Variable

- Independent Variable = catalyst = activator
- Independent Variable is such unit, which has chosen, applied and measured by the researcher to decide the relation of the event under his observation.
- Independent Variable has called factor also. And its Variable are called the categories for example: There are two categories of the variable: (1) Government Hospital (2) Private Hospital
- “In general an independent variable is any variable manipulated by „E” either directly or through selection in order to determine its effects on a behavioural measure.”

In this research following are Independent Variable:
- Gender
- Duration of illness
- Area of residence
- Type of family

3.5.3 Dependent Variable

- Dependent Variable = reaction = Production
- Dependent Variable is such unit that has observed and measures to examine the effect of the Independent Variable.
- By using, removing or making changes in the Independent Variable which ever unit gets cheated, removed or gets changed is called Dependent Variable.
- “A dependent variable is any behavioural variable measured by „E” to assess the effect of a manipulated variable.”

Here as Dependent Variable are:
1. Psychological morbidities in Cardiac patients
2. Quality of Life
3.5.4 Controlled Variable

- Controlled Variable = Neutral Variable = That Variable which makes its ineffective.
- Controlled Variable is such one whose effect during the research is not only on the Independent Variable but also on the Dependent Variable but Researchers regulates them and because of that, it becomes ineffective or its effect becomes neutral.
- In this research for the demonstration of the research, the patients suffering from cardiovascular disease have been selected for the study.
- Impulsive intellect, mental tension and such other Variables have regulated.
- Uncooperative patient
- Family history of mental illness
- Co-morbidity of more than one medical disorder, mental retardation, history of substance abuse.

3.6 Population of the study

Population, which have called universal finding or complete calculation. This method studies each unit of the entire Population.

If we give definition for the Census method, we can say that when data has collected to know some unit of entire Population of some team, community or society then that is called Census Method.

In research to decide, the size of the Population is very important. Sample is a part of Population so for the researcher to know what is Population is highly necessary. It is difficult to take representative and meaningful sample. Here one has to use the statistical meaning in use. For this for the Population that has used in social research, they use word like statistical Population. In statistical terminology, Population means “the study done of some event of some field.”

Giving definition of Population P.V.Young(1966) tells that entire community out of which sample is selected that is called population or supply. Main two type of Population as follows:

- Limited or restricted Population
- Unlimited or non-restricted Population
Limited Population Means such a Population whose members can count where as limitless Population has called such Population whose members cannot calculate. For example the number of the Talukas of Gujarat state is as example of limited Population but the number of fish in a river is an example of non- limited Population In Psychological and Academic researcher only limited Population is used.

Moreover, there are four kinds of Population

- **Homogeneous Population**
  
  Such Population in which some characteristic or spatiality has commonly distributed or commonly found. Such Population has called homogeneous Population.

- **Real Population**
  
  When in some Population each unit is real and each unit. Exists physically then such Population is called real Population.

- **Hypothetic Population**
  
  When there is no physical existence of the each unit of some Population but only imagination of hypothesis has done about its existence then such Population has called hypothetic Population.

In this research work as Population, the patients suffering from cardiovascular disease from various government and private hospital had been taken.

### 3.7 Selection of the Sample

The Researcher selected the sample for the Research the basic class of the persons out of which class the project writer selects the sample in his research. The basic class of that persons means universal. The projector starts his study work on the sample instead of the universal. The Projector has selected such a sample, which reflects the characteristics of the universal. The sample used in the behavioural research has generally divided into two parts.

- **Possibility sample**
  
  - Simple randomly sample
  - Categorized sample
  - Field or bunch sample
• Non Possibility sample
  ➢ Decided part sample
  ➢ Collateral or accidental sample
  ➢ Intended sample

For the full ferment of the aims of the research which accommodates the characteristics of the universal and represents it and selected from such representative small part from which the information has collected. That has called sample.

To bring out aims of the study work and to judge the entire universal which ever small part of the universal was selected. This procedure of selection has called sample selection. Sample comprising 400 cardiac patients from private and government setup of Gujarat. For ascertaining samples, initially ward staff were contacted and information were gathered regarding the cardiovascular patients of the hospital and ward. After that files of the concerned patients were collected and screened out the informant given on them. The patients were diagnosed as suffering from cardiovascular disease by consultant on outdoor level and admitted in government and private hospitals of Gujarat were selected and interviewed by the researcher himself to ensure the diagnostic formulation after confirmation of cardiovascular disease; based on purposive sampling technique, patients were selected according to inclusion and exclusion criteria. Initially 420 patients were selected but finally 400 were found appropriate for the study and they were taken for the study.

3.8 Research Design

In social research, the background of the research design is very important. Before starting any research work its systematic planning has to done. As before constructing a house its plan has to make. Likewise, its blue print has to be prepared. Research planning is the foundation stone of research work. When any one research has undertaken to prove its aims, some research planning suitable to that has to done. By research, planning how many independent variables of the research has to taken. How many levels are there of these variables which methods have been used to control of the outer variables. Moreover, objectives selection of sample, variables, means to collect data, reliability and validity of that, which statistical technique should select. For all these pre thinking has to done. The more the research does is careful in his planning the more validity and reliable results can given by his research.
Research Design has called research guide. Research Design is a basic and distinct planning, mechanism and strategy of any research work.

The aim of the research work is to measure psychological morbidities, Quality of Life in patients with cardiovascular diseases. So first 400 patients will selected as sample as per 2 x 2 factorial design. Here to measure the psychological morbidities in patients with cardiovascular diseases. The following tools will be used for this present study.

**3.9 Tools for the assessment:**
The following tools have been administered in the present study

- Socio-demographic and clinical data sheet
- Hamilton depression rating scale
- Hamilton anxiety rating scale
- Profile of Emotional distress
- Young Schema Questionnaire short form 3
- Automatic thought questionnaire
- Attitude and beliefs scale 2
- Quality of life

**3.9.1 Socio Demographic and Clinical Data Sheet:**

It is a semi-structured Performa especially drafted for the study. It contains information about the socio-demographic variables like age, sex, education, marital status, and domicile of the subjects. It also includes the following information about diagnosis, age of onset, total duration of illness, history of alcohol or substance use, family history of mental illness, any history of significant head injury, seizure, mental retardation any other significant physical or psychiatric illness.

**3.9.2 Hamilton depression rating scale:**

The Hamilton depression (HAM-D) rating scale provides an indication of depression and, over time, a guide to recovery. It is one of the most widely used and accepted outcome measure for evaluating the severity of depression symptoms. The HAM-D was designed to be administered by a trained professional using a semi-structured interview. Even though Hamilton provided no specific guidelines regarding the administration and scoring of the scale, nor any standardized questions for eliciting information from patients, high inter-rater reliability further.
The HAD-D lists 21 items, only the first 17 are scored. The reminder provide additional clinical information. It takes about 20 minutes to completed the interview and score the results. Eight items are scored on 5 point scale, ranging from 0= not present to 4= severe. Nine items are scored from 0-2. Sum the total of the first seventeen items to arrive at the total score. 0-7 means normal, 8-13 means mild, 14-18 means moderate, 19-22 severe and >=23 very severe.

3.9.3 Hamilton Anxiety rating scale:

The Hamilton anxiety rating scale (HAM-A) is a widely used and well-validated tool for measuring the severity of a patient’s anxiety. Developed in 1959 by Dr. M. Hamilton, the scale has proven useful not only in following individual patients but also in research involving many patients. It should be administered by an experienced clinician. The HAM-A probes 14 parameters and takes 15-20 minutes to complete the interview and score the results. Each item is scored on a 5 point scale, ranging from 0=not present to 4=severe. The major value of HAM-A is to assess the patient’s response to a course of treatment, rather than as a diagnostic or screening tool. There are sum the scores from all 14 parameters such as 14-17 mild anxiety, 18-24 moderate anxiety and 25-30 severe anxiety.

3.8.4 Automatic Thoughts Questionnaire (ATQ):

In 1980 Hollon and Kendall developed the Automatic Thoughts Questionnaire. It is a 30 item Likert-type self-reported questionnaire. The responses to the items can range between 1 (not at all) and 5 (all the time). Items of this scale are related to depressive mood state. Reliability and validity of this questionnaire were examined and results showed that it has high psychometric points and it can be used. ATQ adapted for assessment of patients and people not have any mental diagnosis in many country. Reliability and validity of the ATQ is .88 and .66.

3.9.5 The General attitude and beliefs scale 2:

The General attitude and beliefs scale 2 was originally developed by Lindner, Kirkby, Wertheim, and Birch in 1999. Therefore, researcher took standardize version of GABS 2 there are 26 items on 5 point likert scale 1 means strongly disagree to strongly agree. Reliability and validity of this tools is .88 and .98.


The World Health Organization Quality of Life (WHOQOL) project was initiated in 1991. The aim was to develop an international cross-culturally comparable quality of life
assessment instrument. It assesses the individual’s perceptions in the context of their culture and value systems, and their personal goals, standards and concerns. The WHOQOL instruments were developed collaboratively in a number of centers worldwide, and have been widely field-tested. The WHOQOL-BREF instrument comprises 26 items, which measure the following broad domains: physical health, psychological health, social relationships, and environment. The WHOQOL-BREF is a shorter version of the original instrument that may be more convenient for use in large research studies or clinical trials. Updated version in 2004.

3.9.7 Young Schema Questionnaire short form 3:

The Young Schema Questionnaire short form 3 developed by Dr. Young in 2005 was administered as a measure of all 18 schemas. Participants were asked to describe themselves by rating descriptive statements through 6-step Likert-type items ranging from “Completely untrue of me” to “describe me perfectly.” Higher values indicate a stronger presence of the respective schema the 18 schema scale include five items per scale resulting in a total of 90 items. The 18 schema as emotional deprivation, abandonment, mistrust, social isolation, defectiveness, failure to achieve, dependence, vulnerability to harm, enmeshment, subjugation, self-sacrifice, emotional inhibition, unrelenting standards, entitlement, insufficient self-control, approval seeking, pessimism and self-unitiveness.

3.9.8 Profile of Emotional Distress:

The scale was elaborated by Opris and Macavei (2005) there are 26 items of the final version are scored directly. Each answer is assigned a 1 to 5 value as follows: Not at all= 1, A little=2, moderately =3, Quite bit=4, extremely=5. The global score is obtained by adding the scores of all 26 items. The highest possible score is 130, while the lowest possible score is 26. The higher the score, the more distress the subject experiences. Apart from the global score of distress, specific scores for all subscales can be computed by adding the corresponding item.

3.10 PROCEDURE:

A research work and its thesis is the compilation of years of hard work and dedication from the student and the guide. It is the process of acquiring information relating to the research work to attain the goal of validating the hypothesis. Through this process of compilation, one acquires immense knowledge of the field and its related areas, thus to enhance understanding of the subject.
The present research work had its conception over an evening discussion with colleagues, which quickly over weeks period shaped into a formal Ph.D research work proposal to be submitted to the Saurashtra University Department of Psychology. Under the flawless, insightful and efficient guidance Dr. Alka M. Mankad.

In a first step patient identified with Cardiovascular diseases on the basis of Physician diagnosis, and who meet the aforesaid inclusion and exclusion criteria was selected from different hospitals of Gujarat. Informed consent was taken from each patients as well as from the informant who are available before eliciting relevant information. HAM-D was administered for assessing presence of depression of the patient. HAM-A was administered for assessing presence of Anxiety of the patients. EDP was administered for assessing the level of emotional distress of the patients. YSQ-S3 was administered for assessing schemas regarding the cardiac event of the patients. ATQ was administered for assessing the automatic thought of the patients suffering from cardiovascular disease. WHOQOL-BREF was administered to assess the quality of life of patients suffering from cardiovascular disease. After completion assessment sample was divided into two groups on the basis of types of Hospital Government and Private and male or female.

3.11 Statistical Analysis:

For the statistical analysis of the data obtained on 400 subjects, various statistical methods are applied through the computerized software called SPSS (Statistical Package for Social Science), which is rebranded as Predictive Analytical Software (PASW) in 2009.

Various bivariate statistical methods, specifically that of, ANOVA ("F" test), "t" test and "r" test (Correlation) are used for the present research work.

Hypothesis are analyzed and validated at the 0.01 or 0.05 level of significance. All null hypotheses formulated for the research work are individually analyzed and they are either accepted or rejected. A detail of the same is discussed in chapter 4 of the thesis work.

3.12 Venue of the study:

The study has been conducted at the government and private hospitals of Gujarat.

3.13 Summary

This chapter discusses in details the aims, hypothesis, variables, research design, and sample of the study, tool used and the statistical strategies followed to study the final outcome of the research work. It reflects on the functional aspect of the research work. Defining these factors help to structure the observations and the theoretical study, there by formatting the study into a
scientific work. Results of the statistical analysis of the data with reference to various null hypotheses are discussed in the following chapter.