Chapter - 3

Methodology
Research methodology involves various steps that are adopted by the researcher in conducting the research, these steps are:

1. Design
2. Sample
3. Tools
4. Procedure
5. Data analysis

**DESIGN**

Main thrust of the present study was to evaluate the efficacy of meditation in the management of hypertension and angina pectoris. In order to investigate this problem it was necessary to have situations in which subjects falling in various disease groups were studied under conditions of meditation being introduced and conditions in which it was not introduced. Since there were three disease groups namely hypertension, angina pectoris and combined disease (i.e., hypertension and angina pectoris occurring in the same patient) a total number of six groups each consisting of ten subjects were formed. Subjects falling under each disease group were studied under two conditions i.e. DT only and DT with Md. DT was a common factor operating in all the groups. For ethical reasons, the researcher could not advise the patients to stop medical treatment and confine their therapy to meditation only. Further control was exercised by ensuring that all the subjects selected in a particular disease conditions were taking same family of drugs and same dosage. Hypertensives were taking
calcium antagonists (family of Amlodipines 5 mg), angina patients were taking nitrates (monit 60 mg) and B-blockers (atenax 50 mg) and combined disease patients were on calcium antagonists (Amlodipines 5 mg), nitrate (monit 60 mg) and B-blockers (atenax 50 mg).

Other relevent variables which have been found to exercise influence were also taken into consideration, namely (1) Sex (2) marital status, (3) occupation, (4) rural/urban, (5) smoker/non-smoker (6) family history and (7) personality type. In order to exercise control, both groups (group taking drugs only and group taking both meditation and drugs) were equalised on the above mentioned variables.

In order to study the aspect of type A and type B in terms of impact of meditation, subjects selected were administered a short questionnaire to place them in either type A or type B. In order to assess wellbeing of subjects we used two criteria, objective and subjective. The objective criterion consists of keeping weekly records of blood pressure measurements in the case of hypertension patients and record of incidence of angina in the case of angina patients. The second criterion which we used was subjective which consists of patients perception of his/her status in terms of well being. For this we made sense of well-being scale which assessed overall sense of well-being of the subjects.

SAMPLE

The present study was conducted in the department of medicine, Govt. medical college Srinagar, Kashmir and Health links (private cardiac centre). Identification of the patients was done with the
help of specialists in the department of medicine and health links. 150 patients volunteered to take part in this investigation but only 60 patients regularly participated in the study for the period of 24 weeks. Most of the patients who were from far flung areas could not follow regularly because of the prevailing turmoil in the valley. Some patients reduced their dosage, some stopped their medication therefore these were excluded from the study.

Therefore the sample for the present study comprised of 60 patients suffering from certain cardiovascular disorders. The sample was drawn by means of purposive sampling. The cardiovascular disease groups include those suffering from essential hypertension and angina pectoris. Since a large number of patients suffer from both diseases simultaneously, the sample consists of the following three groups.

1. Patients suffering from hypertension.
2. Patients suffering from angina.
3. Patients suffering simultaneously from both hypertension and angina (combined disease group patients).

Each disease group comprises of 20 patients. Since the aim of present study was to find out the role of meditation in the management of cardiovascular disorders, each disease group selected in the sample was further divided into two groups, one group of subjects participated in meditation while continuing with their medication, the second group remained on prescribed drugs without participating in meditation. Thus, six groups of subjects emerge.
1. Hypertension patients undergoing meditation  
2. Hypertension patients not undergoing meditation.  
3. Angina patients undergoing meditation.  
4. Angina patients not undergoing meditation.  
5. Combined disease patients undergoing meditation.  
6. Combined disease patients not undergoing meditation.  

There are 10 subjects in each group bringing total of the sample 60.

TOOLS

Research tools used in this study were

1. Sense of well-being scale  
2. TypeA-Type B rating scale.

1. Sense of well-being scale

In order to assess a phenomena, particularly in studies relating to health, it is advisable to adopt objective as well as subjective criteria of evaluating outcome. The individuals feelings of comfort and relief are as, if not more, important than what is indicated by measuring devices of a technical nature. Subjective evaluation of relief may exercise a salutory effect which may even favourably impact on recovery and alleviation. Therefore, in our study, we also adopted both the approaches. We did weekly blood pressure measurements of all the subjects. This was the objective measure of well-being status which indicates condition at a level of observable through external evaluation. According to phenomenological approach, there are certain things which
rather than being observable are felt and experienced. This approach talks of subjective evaluation. This is a meaningful perspective, particularly in work like ours. Therefore, we had before us the important task of preparing a measure to study well-being.

Although various scales of well-being are available, it was felt by the researcher that rather than a totally general and vague, concept of well-being, information on certain criteria of specific relevance to the various disease groups should also be sought. Therefore, the researcher took the following steps.

1. A list of symptoms which bothered or caused worry and inconvenience to the various disease groups was collected from them. Each disease group gave roughly 10 symptoms and distinguished them further on the basis of severity.

2. On the basis of symptoms enumerated, items were prepared. They were given to specialists in the field of medicine and cardiology for scrutiny together with being given to some senior teachers of the Psychology Department, A.M.U. for further scrutiny. Modifications suggested were incorporated to prepare the final format. Finally, scale consisting of 20 questions was prepared to study sense of well-being among hypertension patients and another 20 item scale was prepared for angina patients.

3. Eight items which covered factors other than specific symptoms were common in both the measures. These items were basically dealing with impact on family, social and community activities.
2. Type A-Type B rating scale

The study of type A and type B personality began with the work of Meyer Friedman and Ray Rosenman, California Cardiologist who discovered the link between type A personality and heart disease. The early work conducted in the area made use of the structured interview to identify type A behaviour. These were indepth studies conducted for the specific purpose of finding links between type A behaviour and cardiac disorders. However for preliminary screening with the intent of categorizing as type A or type B, other measures were developed.

One such measure is the rating scale developed by Bortner (1966). This scale has been widely used for identifying type A/type B personality. The researcher felt that in view of its wide usage, easy comprehendibility and gravity would be a suitable tool for our purpose. The researcher therefore decided to use this scale. The scale consists of seven items each given on a bipolar continuum (the verbal descriptions represent end points) with eight response categories. One and eight indicative of extreme positions on the item. The subject encircles the point on the continuum which best represents behaviour on each dimension. The score of subject is obtained by summing up each point of this continuum selected by him or her as representative of behaviour. The score thus obtained is multiplied by 3. A score of 120 or more represents high type A personality, 106 to 90 reflects type A behaviour. Score of less than 90 represents type B behaviour to a high degree, whereas score of 90 to 99 is indicative of B type.
PROCEDURE

As the scope of social sciences has expanded and as our methods of research and analysis have become more sophisticated and penetrating, concern over the ethics of conducting social science research has grown. Research involving human participants should be performed with informed consent of the participants. The participants should be given a thorough explanation before hand of the benefits, rights, risks and dangers involved with their participation in the research. In our study, there was no risk involved but we were going to encroach on the time of the patient and although benefit to the patient was expected from the encroachment, it was necessary to be procedurally correct. Therefore in view of ethics of conducting a research, we took written informed consent of the patients before starting the study.

After taking informed consent, each patient in the meditation group was verbally instructed how to practice meditation. The meditational technique used in this study is concentration meditation. The instructions for the technique are:

1. Sit quietly in a comfortable position
2. Close your eyes.
3. Deeply relax all your muscles, begining at your feet and progressing up to your face, keep them deeply relaxed.
4. Breathe through your nose. Become aware of your breathing. As you breathe in say word 'ya' silently to yourself in your mind, and as you breathe out say the word 'Allah' silently to yourself in your mind.
5. Continue for 20 minutes. You may open your eyes to check the time, but do not use an alarm. When you finish sit quietly for several minutes at first with closed eyes and later with opened eyes.

6. Do not worry about whether you are successful in achieving a deep level of relaxation. Maintain a passive attitude and permit relaxation to occur at its own pace. When distracting thoughts occur, ignore them and continue repeating 'Ya Allah'.

7. Practise the technique twice daily, but not within 2 hours after any meal, since the digestive process seems to interfere with the elicitation of anticipated changes.

This process of instruction required approximately 5 minutes. Each patient was given a written copy of the instructions, not only this, each instruction written in the copy was explained to them. Researcher selected this technique because this technique is a very simple technique and does not require much effort by the subject. This technique was evolved from Benson's technique of relaxation. The word 'Ya Allah' (oh God) was put in place of word 'one' because the research was conducted in Srinagar which is a Muslim-dominated area and people have affinity with the word 'Ya Allah' and they felt very happy to Chant 'Ya Allah' with their breathing. Not only this, word 'Ya Allah' was introduced in order to give confirmation to the patients personal beliefs which is very important.

Subjects in both the groups returned every week to have their blood pressures measured and give their responses on sense of well-being scale. Blood pressure measurements were taken at any time during the day, but not during the meditation or immediately after the meditation. Each
subjects weekly blood pressure measurements, and responses on sense of well-being scale were taken regularly for the period of 24 weeks. Blood pressure was measured by means of a random-zero sphygmomanometer by the specialists. Subjects in all disease groups remained on drugs prescribed by the specialists without any alteration.

DATA ANALYSIS

The researcher, keeping in view the nature of study used t-test to compare the two groups on all the three factors i.e. systolic blood pressure, diastolic blood pressure and sense of well-being.