Chapter - III

Research Methodology
Chapter - III

Research Methodology

3.1 INTRODUCTION:

This chapter gives a detailed account of the procedure that was followed in completing the research.

Research in common refers to a search for knowledge. One can also define research as a scientific and systematic search for pertinent information on a specific topic. In fact, research is an art of scientific investigation. Redman and Mary define research as a “systematized effort to gain new knowledge.” Some researchers define it as a movement from the known to unknown. It is actually a voyage of discovery. According to Clifford Woody research comprises defining and redefining problems, formulating hypothesis or suggested solutions; collecting, organizing and evaluating data; making deductions and reaching conclusions; and at last carefully testing the conclusions to determine whether they fit the formulating hypothesis. D. Slazenger and M. Stephenson in the Encyclopedia of Social Sciences define research as “the manipulation of things, concepts or symbols for the purpose of generalizing to extend, correct or verify knowledge, whether that knowledge aids in construction of theory or in the practice of an art.”

Research is, thus, an original contribution to the existing stock of knowledge making for its advancement. It is the pursuit of truth with the help of study, observation, comparison and experiment. In short, the search for knowledge through objective and systematic method of finding solution to a problem is research. The systematic approach concerning generalization and the formulation of a theory is also research. As such the term ‘research’ refers to the systematic method consisting of enunciating the problem, formulating a hypothesis, collecting the facts or data, analyzing the facts and
reaching certain conclusions either in the form of solutions towards the concerned problem or in certain generalizations for some theoretical formulation.

The present study was conducted on Obsessive-compulsive disorder patients and collecting relevant data tested the hypotheses formulated for the purpose of the research. This chapter describes Problem, Objectives, Hypotheses, Operational Definition of variables, Research Design, Population and Sample, procedure for the data collection, measurement tools and plan of statistical analysis.

### 3.2 Statement of the Problem

“To study the effectiveness of Cognitive Behavior Therapy and Pharmacotherapy on Obsessive Compulsive Disorder patient with different Symptom patterns.”

### 3.3 Objectives

Considering the variables measured in the research, the t test was used for analyzing the data. Following objectives were formed.

1. To study the effectiveness of Cognitive Behavior Therapy and Pharmacotherapy on Contamination Symptom Pattern in Obsessive Compulsive Disorder Patient as against only pharmacotherapy.

2. To study the effectiveness of Cognitive Behavior Therapy and Pharmacotherapy on Pathological Doubt Symptom Pattern in Obsessive Compulsive Disorder Patient as against only pharmacotherapy.

3. To study the effectiveness of Cognitive Behavior Therapy and Pharmacotherapy on Intrusive Thoughts Symptom Pattern in Obsessive Compulsive Disorder Patient as against only pharmacotherapy.

4. To study the effectiveness of Cognitive Behavior Therapy and Pharmacotherapy on Symmetry Symptom Pattern in Obsessive Compulsive Disorder Patient as against only pharmacotherapy.
5. To study the effectiveness of Cognitive Behavior Therapy and Pharmacotherapy on Other Symptom Pattern in Obsessive Compulsive Disorder Patient as against only pharmacotherapy.

6. To study the effectiveness of Cognitive Behavior Therapy and pharmacotherapy among different symptom patterns of Obsessive Compulsive Disorder Patients as against only pharmacotherapy.

3.4 Hypotheses

Following are the hypotheses formulated considering the objectives of the study and the general direction of the findings of earlier research.

1. Cognitive Behavior Therapy and Pharmacotherapy will have greater effectiveness in Contamination Symptom Pattern of Obsessive Compulsive Disorder Patients than only Pharmacotherapy.

2. Cognitive Behavior Therapy and Pharmacotherapy will have greater effectiveness in Pathological Doubt Symptom Pattern of Obsessive Compulsive Disorder Patients than only Pharmacotherapy.

3. Cognitive Behavior Therapy and Pharmacotherapy will have greater effectiveness in Intrusive Thoughts Symptom Pattern of Obsessive Compulsive Disorder Patients than only Pharmacotherapy.

4. Cognitive Behavior Therapy and Pharmacotherapy will have greater effectiveness in Symmetry Symptom Pattern of Obsessive Compulsive Disorder Patients than only Pharmacotherapy.

5. Cognitive Behavior Therapy and Pharmacotherapy will have greater effectiveness in Other Symptom Pattern of Obsessive Compulsive Disorder Patients than only Pharmacotherapy.
6. There is a difference in the effectiveness of Cognitive Behavior Therapy and Pharmacotherapy in Obsessive Compulsive Disorder Patients among Different Symptom Patterns than only Pharmacotherapy.

3.5 Operational Definition of Variables

Independent Variable:

1) **Cognitive Behavior Therapy** - Cognitive Behavior Therapy is one kind of psychotherapy invented by Dr. Aaron T Beck. It is a short-term, goal-oriented psychotherapy treatment that takes a hands-on, practical approach to problem solving. Its goal is to change patterns of thinking or behavior that are behind people’s difficulties, and so change the way they feel. It is used to help treat a wide range of issues in a person’s life. Cognitive Behavior Therapy works by changing people’s attitudes and their behavior by focusing on the thoughts, images, beliefs and attitudes that we hold (our cognitive processes and how this relates to the way we behave, as a way of dealing with emotional problems. It is based on a model or theory that it’s not events themselves that upset us, but the meanings we give them. If our thoughts are too negative, it can block us seeing things or doing things that don’t fit – that disconfirm what we believe is true. In other words, we continue to hold on to the same old thoughts and fail to learn anything new.

2) **Only Pharmacotherapy** - Medications prescribed by psychiatrist. Considered untreatable before the 1960s, obsessive-compulsive disorder remains a common and enduring illness that can affect any age group (Skoog 1999). Pharmacotherapy for the disorder began in the 1960s, which saw the introduction of the tricyclic agent clomipramine. Treatment has since evolved, with selective serotonin reuptake inhibitors (SSRIs) in the 1980s and augmentation with antipsychotic medication in the 1990s (Fineberg 2005). It is now possible to achieve significant improvement in Obsessive Compulsive Disorder symptoms in
the majority of people who receive optimized drug treatment, psychotherapy and good care.

**Dependent Variable:**

1) **Obsessive Compulsive Disorder Symptom Patterns** – The score on Yale Brown Obsessive Compulsive Scale by Wayne Goodman has been used for diagnosis of Obsessive compulsive Disorder and then with the help of Obsessive Compulsive Inventory by Foa et al 1998 the person was categorized under the Obsessive compulsive Disorder Symptom Patterns.

   a. **Contamination** – The score on Obsessive Compulsive Inventory by Foa et al 1998 were treated as the Contamination category of the person.

   b. **Pathological Doubt** - The score on Obsessive Compulsive Inventory by Foa et al 1998 were treated as the Pathological Doubt category of the person.

   c. **Intrusive Thoughts** - The score on Obsessive Compulsive Inventory by Foa et al 1998 were treated as the Intrusive Thoughts category of the person.

   d. **Symmetry** - The score on Obsessive Compulsive Inventory by Foa et al 1998 were treated as the Symmetry category of the person.

   e. **Other** - The score on Obsessive Compulsive Inventory by Foa et al 1998 were treated as the other category of the person.
3.6 Research Design

The research design refers to the overall strategy that is been chosen to integrate the different components of the study in a coherent and logical way, thereby, ensuring that it effectively address the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data.

Although there are many different kinds of research designs in psychology, studies may be categorized into descriptive or qualitative, correlation, and experimental. The method of data collection also varies; with self-report on one end of the spectrum, and naturalistic observation on the other.

Psychologists test research questions using a variety of methods. Most research relies on either correlations or experiments. With correlations, researchers measure variables as they naturally occur in people and compute the degree to which two variables go together. With experiments, researchers actively make changes in one variable and watch for changes in another variable. Experiments allow researchers to make causal inferences. Other types of methods include longitudinal and quasi-experimental designs. Many factors, including practical constraints, determine the type of methods researchers use. Often researchers survey people even though it would be better, but more expensive and time consuming, to track them longitudinally.

Pretest – posttest designs are an expansion of the posttest only design with nonequivalent groups, one of the simplest methods of testing the effectiveness of an intervention. In this design, which uses two groups, one group is given the treatment and the results are gathered at the end. The control group receives no treatment, over the sample period of time, but undergoes exactly the same tests. Statistical analysis can then determine if the intervention had a significant effect.

For many true experimental designs, pretest-posttest designs are the preferred method to compare participant groups and measure the degree of change occurring as a result of
treatments or interventions. Hence, Pretest-Posttest experimental design is used in the research.

3.7 Sample Distribution

The sample of study was from the population of the Maharashtra Region, state of India. The purposive sampling technique was used for selecting the sample which consists of 300 Obsessive Compulsive Disorder patients between the age group of 18 to 55yrs old and was equally distributed among male and female, urban and rural area and among different symptom patterns of Obsessive Compulsive Disorder. The patient having co-morbid psychiatric illness and other medical condition was excluded.

The distributions of the effective samples were as follows:

<table>
<thead>
<tr>
<th></th>
<th>Contamination</th>
<th>Pathological Doubt</th>
<th>Intrusive Thoughts</th>
<th>Symmetry</th>
<th>Other Symptom Pattern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Behavior</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Therapy with Pharmacotherapy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Only Pharmacotherapy</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

3.8 Procedure for the data collection

During 1\textsuperscript{st} visit detailed case history, administration of YBOCS and OCI was done and pharmacotherapy was started by Psychiatrist after diagnosis and psycho education, importance of pharmacotherapy and cognitive behavior therapy was explained to patient and informant. During 2\textsuperscript{nd} visit (after 10 days from 1\textsuperscript{st} visit) Cognitive Behavior Therapy was started and was administered in 15 sessions of one-hour duration over 30 weeks. At the end of therapy sessions, administration of Yale Brown Obsessive Compulsive Scale and Obsessive Compulsive Inventory was done to see the
effectiveness of Cognitive Behavior Therapy. On the sample to whom only pharmacotherapy was provided pre and post test Yale-Brown Obsessive Compulsive Scale and Obsessive Compulsive Inventory was administered to find out the effect of Only Pharmacotherapy. Initially the family Members (informant) was explained the nature of the problem, and also that psychotherapy is an important adjunct to medication. The patient was explained the basic concept of Cognitive Behavior Therapy. The intervention programme was developed with the following components:

1) Detailed Case History
2) Cognitive Restructuring
3) Problem Solving
4) Graded Task Assignments
5) Exposure and Response Prevention
6) Activity scheduling
7) Introduction of Fear Thermometer
8) Cognitive Distortions
9) Giving Credit
10) Activity Monitoring
11) Thought Stopping
12) Thought Challenging
13) Relaxation Techniques (i.e. Patanjali Kriya or Jacobson Muscle Relaxation or Behavioral Relaxation or Breathing exercises or Meditation)

3.9 Measurement Tools

1) Yale Brown Obsessive Compulsive Scale: The YBOCS, developed by Wayne Goodman et al, is a rating scale to evaluate the severity of illness in individuals with obsessive-compulsive disorder (Obsessive Compulsive Disorder). It has ten items rated based on a semi-structured interview. The first five concern obsessions; the amount of time they consume, the degree to which they interfere with normal functioning, the distress they cause, the patient’s attempt to resist them, and the patient’s ability to control them. The remaining five items ask parallel questions about
compulsions. Each item has a set of item specific anchors scored from 0 to 4, so total score of obsessions and compulsions each range from 0 to 20 and overall total score ranges from 0 to 40. Typical scores for patients with Obsessive Compulsive Disorder are in the 16 to 30 ranges, and the threshold of 16 is typically used for inclusion in drug trials.

Reliability studies of the YBOCS show good inter consistency, interrater reliability of 0.72-0.98, and test retest reliability over a 1- week interval. An Intraclass correlation has been reported as 0.80. The YBOCS has become the standard instrument for assessing Obsessive Compulsive Disorder severity and is used in virtually every drug trial. It also is used clinically to monitor treatment response.

2) The Obsessive-Compulsive Inventory (OCI): The OCI devised by, Foa, Kozak, Salkovskis, Coles, and Amir (1998). A self-report inventory for determining the diagnosis and overall severity of obsessive-compulsive disorder (Obsessive Compulsive Disorder), and yields a profile of frequency and distress for each symptom class. It allows for a wide range of severity scores to afford comparisons among the severity of various obsessions and compulsions.

- **Reliability: Split-half / Cronbach's Alpha: Internal consistency** – Full scales and most subscales have satisfactory internal consistency. The alpha coefficients of the full scale for each group were all high (range .86 to .95), indicating the distress and frequency items within each subscale converge on a common construct. The OCI correlates well with other measures of Obsessive Compulsive Disorder symptoms and distinguishes individuals with Obsessive Compulsive Disorder from those with other anxiety disorders and controls. Positive correlations of the OCI total score with the total scores of the MOCI and the CAC. These findings suggest that although the OCI assesses wider range of Obsessive Compulsive Disorder symptoms than other Obsessive Compulsive Disorder questionnaires, this does not compromise reliability in assessing Obsessive Compulsive Disorder severity. The Washing and checking subscales of the MOCI are also positively correlated.
The Effect of Cognitive Behavior Therapy In Obsessive Compulsive Disorder.

- **Test-Retest Reliability:** Overall reliability for total scores and subscale scores were satisfactory, with good test-retest reliability for total scores of symptoms frequency and distress in individuals with Obsessive Compulsive Disorder and in non-patient populations. High test-retest reliability for the distress (Obsessive Compulsive Disorder, $r=.87$; controls, $r=.89$) and frequency (Obsessive Compulsive Disorder, $r=.84$; controls $r=.90$) total scores.

- **Inter-rater Reliability:** Interrater reliability was not assessed directly in this study. Previous research that used this same assessment method at the same Center has revealed satisfactory interrater agreement for the Y-BOCS severity score (Foa et al., 1995).

**Scoring Method:** Each item is rated 0-4 on a Likert scale provides a wide range of severity for each item and each subscale. Scores include total distress and frequency and subscale frequency and distress. There are 7 subscales.

### 3.10 STATISTICAL ANALYSIS

Statistical Analysis in psychology is the application of formulas, theorems, numbers and laws to psychology.

Much of psychological research involves measuring observations of particular characteristics of either a population, or a sample taken from a population. These measurements yield a set of values or scores, and this set represents the findings of the research, or data. Often, it is impractical to completely measure the characteristics of a given population, known as parameters, directly. Thus, psychologists often focus on the characteristics of samples taken from a population. These characteristics are called statistics. The psychologist then uses these sample statistics to make inferences about population parameters.

Descriptive statistics is the name given to procedures used to collect, classifies, summarize and present data.
Mean is an arithmetic average of a set of scores. By summing a set of scores and divide that sum by the total number of scores shows calculation of the arithmetic mean of the scores.

Standard Deviation is simply the square root of the variance. Unlike the variance, the standard deviation is in the same units as the raw scores them. This is what makes the standard deviation more meaningful. For example, it would make more sense to discuss the variability of a set of IQ scores in IQ points than in squared IQ points.

An ‘t’ test statistical significance indicates whether or not the difference between two groups averages most likely reflects a “real” difference in the population from which the groups were sampled.

Using ‘t’ test statistical analysis was done and the collected data was computed using SPSS software. ‘t’ test were used to assess significance between pretest and posttest groups. The mean, standard deviation and mean difference were calculated for all the variables.