Chapter-4

METHODS AND PROCEDURE

In scientific research, planning of the study is of prime importance. Planning is associated with the choice of significant aspects an effective methodology. In absence of suitable methodological plan, no scientific research can be systematically undertaken. Besides, scientific conclusions are difficult to draw without suitable methodology. Hence, the present chapter deals with the sample, tools and techniques and research design and procedure of collecting and analyzing data.

In the initial phase of study, 248 patients diagnosed with depression were drawn from the Department of Mental Health and Behavioural Sciences of the Max Balaji Hospital, Padpadganj, Delhi, for the present study. 88 patients were screened out initially due to their varying inability to meet the purpose of present research work. Finally 160 patients diagnosed with depression were included as a sample for the study. Out of the total 160 patients, 80 were employed and 80 were unemployed. The employed and unemployed participants were randomly assigned equally to the experimental and control groups.

Table 4.1: Distribution of Participants

<table>
<thead>
<tr>
<th></th>
<th>Unemployed</th>
<th>Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Experimental Group</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Control Group</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Total</td>
<td>N=80</td>
<td>N=80</td>
</tr>
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</table>
The subjects were randomly assigned in two groups. One group was called experimental group which received Cognitive Behaviour Therapy (CBT) and another group called as control group did not receive the CBT. Experimental group consisted of 40 unemployed and 40 employed patients. Likewise, out of remaining 80 control group patients, 40 belonged to unemployed and 40 to employed group. Participants fell in the any of the two groups randomly, stayed in the same group throughout the period of this research work. Employed patients in this study were those patients who were working regularly in any private or government organization and drawing the salary. While unemployed patients were those who were drawing no salary from any government or private organization.

Table 4.2: The distribution of employed and unemployed male and female participants according to their age

<table>
<thead>
<tr>
<th>Total Sample (N=160)</th>
<th>Gender</th>
<th>Unemployed</th>
<th>Employed</th>
<th>Age range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>71</td>
<td>65</td>
<td></td>
<td>33.12</td>
</tr>
<tr>
<td>Female</td>
<td>09</td>
<td>15</td>
<td></td>
<td>31.25</td>
</tr>
<tr>
<td>Total</td>
<td>80</td>
<td>80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The total numbers of male participants was 136, with the age range of 33.12. The total numbers of female participants were 24, with the age range of 31.25. The representation of male sample was more as compared to female. It was the because of the visits of participants at the hospital randomly. The diagnosis of depression among patients was done by senior psychiatrist and senior clinical psychologist on the basis of the criteria of DSM-IV prescribed for depressive disorder. Apart from that BDI-II was also administer to assess the level of depression among patients.
Table 4.3: Distribution of Sample According to their status of Education

<table>
<thead>
<tr>
<th>Literate</th>
<th>Illiterate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>155</td>
<td>05</td>
<td>160</td>
</tr>
</tbody>
</table>

On the basis of educational status, all the participants were divided into two categories, namely literate and illiterate. Literate patients were those who had visited the school at any stage of their life and possess the minimum ability to read and write. On the other hand illiterate patients consisted of that group who never visited the school and possess no ability to read and write. The literate population was 155, and illiterate was 05. The representation of literate persons is more compared to illiterate. It may be due to the location of the Max Balaji Hospital is Delhi which is a private hospital and located in the heart of city. The educated clientele is inclined to turn up to private hospital because were seeking for the better health care.

4.2 Tools for data collection

The tests and questionnaire used in the present study were as follows:

Two psychological tools have been used viz., (i) Beck Depression Inventory (BDI-II), in order to that baseline assessment of depressive symptomatology, and (ii) A self constructed interview schedule was used by the researcher to collect the basic information related to the participants during the data collection. The description of both the tools is as follows:

**Beck Depression Inventory (BDI-II)**

The Beck Depression Inventory–Second Edition (BDI-II) is a 21-item self-report instrument developed by Aaron Beck (1996) for measuring the severity of depression among adults and adolescents aged 13 years and older. This version of the
inventory (BDI-II) was developed for the assessment of symptoms corresponding to criteria for diagnosing depressive disorders listed in Diagnostic and Statistical Manual of Mental Disorders; Fourth Edition (DSM-IV, 1994). The composition of items has been carefully constructed which are related to depressive symptomatology such as hopelessness, irritability, guilt feelings, fatigue, lack of interest in sex, loss of pleasure, and also feelings of suicide thoughts/wishes etc.

**Scoring and interpretation of BDI-II**

Each item in BDI-II was assigned the score 0 to 3. Thus the score ranged from 0-43 for each participant. The total score was compared on scoring key to determine the level of severity of depressions.

**Table 4.4: The Scoring with the Interpretation**

<table>
<thead>
<tr>
<th>Score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-13</td>
<td>No depression</td>
</tr>
<tr>
<td>14-19</td>
<td>Mild depression</td>
</tr>
<tr>
<td>20-28</td>
<td>Moderate depression</td>
</tr>
<tr>
<td>29-63</td>
<td>Severe depression</td>
</tr>
</tbody>
</table>

The score between 0-13 indicated that a person is not depressed. The scores ranged 14-19 indicated that the person is mildly depressed. 20-28 indicated moderate level of depression and finally the scores between 29-63 indicated that the person is severely depressed. Higher the score indicated the higher level of depressive symptomatology.
**Interview Schedule**

It was the self constructed instrument to collect subjects’ demographic details, and symptomatic information. This instrument collected subjects’ primary personal details such as name, age, sex, education, occupation, residence, Caste, working status viz., employed & unemployed, socio-economic status (SES) viz., lower, middle, and upper income group. Further this instrument also collected the subjects’ personal & family history, along with psychological symptomatology.

**4.3 Design of the study**

The present investigation has followed a Pre test-Post test design i.e., the employed and unemployed participants in the study were randomly assigned into two groups namely experimental and control. Both groups of participants were equivalent in all respect, except the invention of CBT for the experimental group. Baseline assessment i.e. pre-test of depressive symptoms was taken in the beginning of the study the both groups. The further assessment was done after the intervention of CBT, called as post-test assessment of depression. The follow-up of subject was done as the third level of analysis to assess the durability of the treatment effect by CBT.

**Table 4.5: The design of the study with different treatment levels**

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Level I</th>
<th>Intervention</th>
<th>Level II</th>
<th>Level III</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Experimental Group</strong></td>
<td>Pre-Test Assessment of Depression</td>
<td>CBT Intervention</td>
<td>Post-Test Assessment of Depression</td>
<td>Follow-Up After Three Months</td>
</tr>
<tr>
<td><strong>Control Group</strong></td>
<td>Pre-Test Assessment of Depression</td>
<td>No CBT Intervention</td>
<td>Post-Test Assessment of Depression</td>
<td>Follow-Up After Three Months</td>
</tr>
</tbody>
</table>
Experimental group firstly has to undergo pre-test assessment of depression on BDI-II test. This group was taken for the Cognitive Behaviour Therapy intervention. After CBT intervention, the same group has to undergo post-test and follow-up assessment of depression.

In the same manner, control group also has to first undergo pre-test assessment of depression on BDI-II test. This group is to be kept as control this group would not receive the CBT intervention. After three month of gap, the control group has to undergo post-test assessment of depression.

Inclusion criteria

Patients were rated on the following criteria before the final selection for the present study.

- DSM-IV criteria for diagnosing depressive disorder.
- Participants with the age of 18 years or above

Exclusion criteria

- Depressive patients below 18 years of age.
- A diagnosis of any other mental problems along with depression.

Instrumentation

- Interview Schedule
- Beck Depression Inventory second (BDI-II)
- Stop watch

4.4 Procedure for data collection

Data collection was completed in four phases. In the first phase, each participant in experimental and control groups who were diagnosis with the
depression were interviewed individually and briefed about the study. Interview Schedule was done administered on all subjects so as to collect their primary and symptomatic information. BDI-II was administered on all of them so as to obtain there score on depression inventory, as part of ‘pre-test assessment of depression’. This is the baseline assessment of level of depression present in patients in the beginning of the study.

In Second phase, patients in experimental group were taken for CBT intervention. They were given CBT for six sessions individually within a period of three months. During therapy sessions, their negative thinking and behaviour were recorded so as to measure the progress of the same after CBT sessions were stopped.

In third phase, both the groups viz., experimental and control group were again given BDI-II as part of ‘post-test assessment of depression’ so as to collect their score on the test after the period of three months. The score indicates the level of depression among both groups.

In fourth phase, finally both the groups viz., experimental and control group were measured third time on BDI-II as part of follow-up assessment of level of depression in order to obtain their score on the test in follow-up period. This phase was basically administered to check the durability of CBT.

Table 4.6: CBT Session Schedule for Experimental Group

<table>
<thead>
<tr>
<th>Total patients</th>
<th>Session Per Patients</th>
<th>Total Sessions</th>
<th>Session Duration</th>
<th>Session per day</th>
<th>Session Per week</th>
<th>Session Per Month</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>06</td>
<td>480</td>
<td>1 Hour</td>
<td>6+</td>
<td>36+</td>
<td>160+</td>
<td>3 Month</td>
</tr>
</tbody>
</table>
The experimental group (N=80) was given six CBT sessions individually. Hence the total number of sessions comes to 480. Every session for each patient was kept for about 1 hour of duration. Every day, around six or more sessions was given to the all patients. Hence, more than 36 sessions per week were given, so as to make 160 sessions in a month to meet the session target. The CBT session schedule was continued for 3 months.

4.5 Analysis of Data

The obtained scores were subjected to different descriptive procedures, with the help of the Statistical Package for Social Sciences-Version sixteen.

4.6 Cognitive Behaviour Therapy Techniques

All the depressive patients were cordially and respectfully invited individually for the study at the Hospital. After this invitation, initial rapport was established with individual patients. In the rapport building procedure, they were taken into confidence individually and separately that they would be given psychotherapy in order to help them in reducing or removing their depressive illness. Their details were taken and they were also informed that their identity and information would be kept confidential. After briefing, they showed their willingness to participate in psychotherapy.

They were informed that this therapeutic tool is ‘Talk Therapy’. They were further informed that in this type of therapy, the therapist listens to patients and then identifies disturbing thought processes and records them. After identifying their thinking patterns, the therapist would discuss the disturbed patterns of patients and then therapist would motivate patients to act on adaptive and positive thinking, i.e.,
‘Walk the Talk’. Therapist explains that without ‘walking on the talk’, significant progress in lessening their depression would be a distant dream.

The CBT was administered by the researcher of the present study himself. Before the administration of CBT, the researcher took the intensive training for the period of eleven months under the qualified mental health professionals at the Max Balaji Hospital, in the Department of Mental Health and Behavioural Sciences, at Delhi (India).

Cognitive Behaviour Therapy (CBT) is an empirically validated form of psychotherapy, which has shown to prove it’s effective in more than 350 outcome studies, including depression (Judith, Beck 2004). The cognitive and behavioural therapies appear equally effective for men and women and people of various races (Dobson, 1989; Thase, et al., 1994). In CBT, patient’s negative or pessimistic thoughts or identified and patient’s maladaptive behaviour is analyzed. Therapeutic aim is to put positive or optimistic thinking and adoptive behaviour. The work is on thoughts and actions i.e., on psyche and soma or on mind and body.

Chang in thinking leads the changes in behavior and change in behavior caused the changes in thinking, is reciprocal process. The CBT is a comprehensive system of psychotherapy, with an operationalized treatment based on an elaborate and empirically supported theory of psychopathology. Encouragement, support, rewards etc., which can motivate patients are integral elements of CBT. The CBT is “an active, directive, time-limited, structured approach. It is based on an underlying theoretical rational that an individual’s affect (mood) and behaviour are largely determined by the way in which he or she structures or views the world’” (Beck et al., 1979; Hawton, K., et al. 1989).
The major problem in depression is that the patients see themselves, their world and their future in a very negative way. The goal of CBT is to bring patients back to premorbid level where they see themselves, their environment, and their future in positive way. In other words, it is a process to bring back individuals from disease to help. In this psychotherapeutic process, the following few major techniques are used (Dewan, et al., 2004; Tasman, et al., 2003; Hales & Yudofsky, 2003).

**Cognitive modification**

To modify patient’s negative thought process slowly and steadily cognitive modification is the first and foremost CBT technique in order to lift or lessen depression. Therapist notes very closely where the patient’s thinking is disturbed. Therapeutic target is patient’s cognitive triad viz., (i) Beliefs about oneself, e.g., he/her self is inadequate; (ii) Thinking about the world, e.g., people do not like me, and (iii) Thinking about the future, e.g., nothing positive would happen. At the level of cognitive triad, therapist emphatically replaces positive cognitions and motivates patient to look closely and understand how this negative thinking is a burden on him or her. Therapist can say ‘here and now’ statements to patient, e.g., (1) “You are able to listen and think what is being discussed in the session. This is your ability”. (2) “There are some people in your environment who think compassionately about yourself, and they have good feelings about you”. (3) “Nothing is everlasting that means change is the rule of nature”. (4) “You were happy before few days or months, and now you feel sad. But this sadness is not life-long for you, because situation always changes”.

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Thought and action are complimentary. This is globally simple and practical experience of almost everyone. Here it is used as a therapeutic tool to replace negative thinking and maladaptive behaviour by positive thoughts and adaptive behaviour.

**Problem Solving**

This is also a central part of CBT. Every patient brings real-life problems to therapy, some of which are exacerbated by their faulty interpretations. Patients’ distorted thinking is identified and at times, clinicians engage in straightforward problem solving with patients. In order to initiate the process of problem solving, clinicians first engage patients to brainstorm options, examine choices, and select a manageable course of action to carry it out and examine the result. ‘Brainstorm’ is in itself a technique in which many options therapist and patient find out to solve a problem. This is aimed at broadening patient’s thinking from many angles so as to free him from one cage. Here, clinician’s emphasis that selected option is practically implemented in real-life environment, without which therapy is less effective.

**Graded Task Assignments**

Task assignments or home-work exercises from easy to difficult are given to patients to implement or to practice in his or her real environment. This is especially important as depressed patients’ psycho-motor activity gets disturbed and slows down and patients are not able to take tasks properly on hand to implement. Here clinicians help patients break-down seemingly the most difficult problems into component parts which patients can work on step-by-step from easy steps to hard steps. Clinician can demonstrate this in therapeutic sessions also so that patient feel encouraged to work at easy task. Then therapists assign the graded task to practice in his real environment.
**Activity Monitoring**

This is needed as depressed patients often do not feel to follow and or maintain assigned work. When the therapist is monitoring the activity of patients, patients feel that they are being monitored by therapist and if they do not do the assigned activity, therapist would not like this. They are advised to keep a log of what they are doing mostly during daytime and rate their mood during each activity and note their sense of pleasure in that activity. This log can be invaluable in identifying activities that patients are engaging in too much or too little. Based on this, patients’ positivity and negativity as well as pleasure and pain would be known. Besides, when the activity is followed and maintained, the cloud of sadness is slowly pushed away and that paves the way for pleasure to arrive.

**Activity Scheduling**

Behavioural activation and activity scheduling are particularly important for patients who are relatively inactive or whose lives are disorganized. Hence the day is classified in schedules of pleasurable or manageable activities in the morning, afternoon and evening. Depressed patients often believe that they should wait until they are feeling better before they attempt to engage in activities that can give them a sense of mastery or pleasure. However, these patients invariably find that their mood improves when they push themselves to engage in formerly pleasurable activities and to perform tasks from which they can derive a sense of satisfaction or accomplishment/success. Fear or failure prevents patients to initiate the activity. Such efforts are especially important when patients simultaneously experience interfering negative thoughts. Little satisfaction or success keeps away negativity.
**Psycho-education**

This is also one of key elements in CBT. Clinicians educate their patients about many aspects of therapy, including the symptoms of their disorder. Therapist can use standard or authoritative textbook material for patients and or care-takers to read and know what is written there about patient’s disease condition. For example, “Coping With Depression”, a brief pamphlet by Beck, *et al.* (1995). This can act as self-knowing about themselves, and this can work as healing agent. Psycho-education also removes misconceptions about disease condition. This can be termed as “Bibliotherapy”. Such approach may help patients and care-takers to stay in therapy and learn from the therapy.

**Guided Discovery**

A major part of cognitive behaviour therapy is to modify patients’ dysfunctional cognitions. Patients are guided to discover their automatic negative thoughts and beliefs, and to identify the distortions in their thinking. Thus patients develop more understanding about self which lead them to accept adaptive viewpoints. In order to help clients, clinicians use guided discovery through gentle and Socratic questioning process.

Depressed patients show characteristic errors in their thinking, e.g., All-bad or nothing-good thinking. They discount the positive and avoid emotional reasoning. Therapist can frame good questions so as to engage the patient in a process that is aimed at recognizing and modifying a biased or distorted cognitive style.

**Dysfunctional Thought Record**

This is a useful technique for most patients to record their dysfunctional thought, e.g., whenever patients notice that their mood is getting worse, they can ask
themselves, viz., “What is going through my mind right now?” patient can jot down the thought or mental image in the “Automatic thought(s)” list; and then also to note down associated emotions and the situation. Therapist can encourage the patient to note down this during session so as to discuss its effects immediately. In this process, when patients find that they are overreacting to situations or developing early warning signs of their disorder, they may become able to manage episodic event. Patients are told that this effort is worthwhile in reducing their distress. Practice can be given during session, and then they are advised to follow outside therapeutic situation also.

**Responding to Patient’s Valid Thoughts**

Sometimes patients’ thoughts are valid. When patients’ thoughts are valid, clinicians usually support them problem solving, evaluating the patient’s conclusion, or examining the utility of the thought. Evaluating and responding to negative conclusions, can reduce patient’s distress.

**Coping Cards**

Coping cards are brief therapy notes which patients can carry with them and read several times a day. Usually they contain responses to patients’ key, recurrent automatic negative thoughts or positive behavioural instructions. Patients are given inspirational notes, or sentences, or positive therapeutic outcomes on cards, so that whenever patient comes-across distress, he/she can take out card from pockets or purse and read it so as to remember positive aspects of thinking.

**Imagery Work**

Imagery work is quite important for many patients, especially those who experience automatic negative thoughts in an imaginary form. Even when patient is depressed and feeling gloomy or sad, patient is advised to imagine for few minutes in
session, a situation or event or place where he/she had found pleasure or can find pleasure in imagination.

**Response Prevention**

In depressive patients, they are encouraged to tell pleasant stories (even of film, dramas etc) they might have heard, read or seen during their life trajectory; so that patient can come out of depressive situation for some time during therapy session. Even patient is encouraged to read stories at home also.

**Modification of Underlying Beliefs**

Modification of underlying beliefs entails many of the techniques listed in CBT books. Rigid, long-standing beliefs usually require a variety of interventions over time, a full description of which is beyond the scope of the present research study.

Some techniques include developing more realistic, more functional beliefs; explaining faulty information processing; monitoring the operation of the schema; identifying alternative explanations for patients’ experiences when the belief has been activated; learning to recognize evidence that disconfirms the dysfunctional belief; using metaphors and analogies to help patients develop new perspective; using rational-emotional role-plays; and examining the developmental origin of beliefs (Beck, *et al.*, 1990 and Beck, J. 1995 for a thorough presentation of these interventions).

**Termination of Cognitive Behaviour Therapy**

Termination of psychotherapy is the last phase of psychological mode of treatment to psychiatric patients. Expressing ‘Good Bye’ at both sides (from the side of therapist and patient) is emotional but a part of therapeutic journey. Few important
points of this phase are: 1. Briefing about initial therapeutic contact and contract, 2. Therapeutic progress from initial symptoms to the present level of reduction in problems, 3. Showing the necessity of maintaining therapeutic learning, 4. encouraging starting independent journey after therapeutic dependence, 5. Assurance of therapeutic help in future, if needed, 6. Brief Note of sessions’ outcome – except confidential material - which can be shared by the patient and other helping professionals, in case patient need therapeutic help at other place or from other therapist.