CHAPTER III
Methodology
Aim of the Present Study

To study the effect of Rational Emotive Behaviour Therapy (REBT) on depression and irrational beliefs among infertile women.

Objectives:

1. To compare the level of depression and irrational beliefs among fertile and infertile women.
2. To study the effect of REBT on depression and irrational beliefs among infertile women.

Hypotheses:

1. Fertile and infertile women differ in the level of depression.
2. Fertile and infertile women differ in the level of irrational beliefs.
3. REBT reduce depression in the infertile women.
4. REBT reduce irrational beliefs in the infertile women.

Research Design

The study involves two group comparison designs with pre and post assessment. Experimental group will be subjected to REBT intervention, and control group will be without intervention.

Variables

Independent variable: Rational Emotive Behaviour Therapy (REBT).

Dependent variables: Depression and Irrational beliefs.

Inclusion Criteria:

1. Only married women, with the history of infertility and undergoing treatment for at least more than one year.
2. Primary infertile women in the age group of 20-40.
3. Couple should be living together.
4. Infertility diagnosed by specialists.
Exclusion criteria:

1. Unmarried, widowed, divorced infertile women.
2. Previous exposure to the similar treatment.
3. Women with secondary infertility.
4. Presence history of physical / mental illness.

Sample

Sample for objective 1:

For the purpose of comparing depression and irrational beliefs among fertile and infertile women 50 fertile and 50 infertile women were selected (N=100).

Sample for objective 2:

A purposive sample of 50 infertile women (Diagnosed by specialist) was selected from Infertility Centre, (Mediwave IVF & Fertility Research Hospital, Mysore City – Karnataka-India) and their spouses were contacted individually with a request to cooperate in the research. Out of 50 infertile women, 40 infertile women were selected randomly and then divided them into experimental (N=20) and control groups (N= 20). Experimental group received REBT and control group received no intervention.

Research tools and their descriptions:

1. Semi-Structured Interview Schedule – (Appendix-I)

Semi-Structured Interview Schedule was specifically developed by the researcher for the present study to collect socio—demographic details.

2. Beck Depression Inventory II (BDI-II) (Beck, Steer & Brown, 1996)-(Appendix-II)

The BDI-II was a 1996 revision of the BDI (Beck, Steer, Ball, & Ranieri, 1996). In the revised version, items involving changes in body image, hypochondria, and difficulty to work were replaced. Further, items on sleep and appetite loss were revised to assess both increases and decreases in sleep and appetite. Only the items dealing with feelings of being punished, thoughts about suicide, and interest in sex
remained the same. Participants were asked to rate each item on a 4 (0, 1, 2, 3) point scale as to how they have been feeling for the past two weeks.

**Scoring:** The BDI-II has 21 items. Each item is rated on a 4-point scale ranging from 0 to 3. The maximum total score is 63. High total score indicates severe depressive symptoms (Beck et al., 1996). Special attention must be paid to the correct scoring of the Changes in Sleeping Pattern (Item No. 16) and Changes in Appetite (Item No. 18) items. These items contains seven options rated, in order, 0, 1a, 1b, 2a, 2b, 3a, 3b, to differentiate between increase or decrease in behaviour or motivation. If a high rated option is chosen by the respondent, the presence of an increase or decrease in either symptom should be clinically noted for diagnostic purposes.

New cut off score was developed by Beck et al., (1996) for BDI-II as follows: 0–13: minimal depression, 14–19: mild depression, 20–28: moderate depression, and 29–63: severe depression.

**Reliability and validity:** One measure of an instrument's usefulness is to see how closely it agrees with another similar instrument that has been validated. BDI-II is positively correlated with the Hamilton Depression Rating Scale with a Pearson correlation of 0.71, showing good agreement. The test also shown to have a high one-week test–retest reliability (Pearson r =0.93). The test also has high internal consistency (α=.91)(Beck et al., 1996).

**Two factor approach to depression:** Depression can be thought of as having two components: the affective component (e.g. mood) and the physical or "somatic" component (e.g. loss of appetite). The BDI-II reflects this and can be separated into two subscales. The purpose of the subscales is to help determine the cause of an individual's depression.

The **affective subscale** contains eight items on pessimism, past failures, guilt feelings, punishment, self-dislike, self-criticalness, suicidal thoughts or wishes, and worthlessness. The **somatic subscale** consists of the remaining thirteen items assessing sadness, loss of pleasure, crying, agitation, loss of interest, indecisiveness, loss of energy, change in sleep patterns, irritability, change in appetite, concentration difficulties, tiredness and/or fatigue and loss of interest in sex. (Steer, Ball & Ranieri, 1999; Storch, Roberti, & Roth, 2004) indicate that the two subscales were moderately
correlated at 0.57, suggesting that physical and psychological aspects of depression are related rather than totally distinct. In the present study the scores of 20 and above was used as a cut of score criteria for selecting the subjects.

3. The Shortened General Attitude and Belief Scale (SGABS) (Linder et al., 1999) (Appendix-III)

The SGABS is a 26-item measure, which was designed to provide a brief assessment of irrational thinking in accordance with ideas from REBT theory. 26-item self report questionnaire, consisting of two subscales, rationality and irrationality. Irrationality looking at six factors: need for achievement, need for approval, need for comfort, demands for fairness, self-downing and other downing. Each subscale consists of statements and a Likert scale ranging from 5-point scale: 1. strongly disagree; 2. disagree; 3. neutral; 4. agree; 5. strongly agree. The maximum score is 110 for irrationality (22 items), and 20 for rationality (4 items).

The Rationality Subscale has 4 statements (e.g. ‘I have worth as a person even if I do not perform well at tasks that are important to me’). The Self-downing Subscale has 4 statements (e.g. ‘if important people dislike me, it is because I am an unlikeable, bad person’). The Need for Achievement Subscale has 4 statements (e.g. ‘it’s unbearable to fail at important things, and I can’t stand not succeeding at them’). The Need for Approval Subscale has 3 statements (e.g. ‘it’s awful to be disliked by people who are important to me and it is a catastrophe if they don’t like me’). The Need for Comfort Subscale has 4 statements (e.g. ‘it’s unbearable being uncomfortable, tense or nervous and I can’t stand it when I am’). The Demand for Fairness Subscale has 4 statements (e.g. ‘I can’t stand a lack of consideration from other people, and I can’t bear the possibility of their unfairness’). The Other-downing Subscale has 3 statements (e.g. ‘When I am treated inconsiderately, I think it shows what kind of bad and hopeless people there are in the world’).

This is the shortened version of the 55-item General Attitude and Belief Scale. Lindner et al., (1999) found a test-retest correlation for total irrationality of $r=0.91$ and a Cronbach’s alpha of .65-.87. Lindner et al., (1999) found a moderate but significant correlation of $r=0.41$ between the SGABS and the Beck’s Depression Inventory, but a higher correlation of $r=0.77$ between SGABS and the Irrational Belief Scale.
MacInnes (2003) found the measure to have good internal reliability, with Cronbach’s alpha for each subscale varying between 0.62 and 0.87, in line with Lindner’s (1999) research. The Shortened General Attitude Belief Scale, made no mention of Irrational Beliefs in its title, which was also considered by the researcher to be useful, as it was less likely to reveal the researcher’s hypothesis to the participants.

Validity was investigated by measuring the association between the SGABS, the Irrational Beliefs Scale (Malouff & Schutte, 1986) and the BDI; moderate associations were reported. *In the present study the 60th percent and above on the total scores of (SGAB) was used as cut of score criteria for selecting infertile women.*

**Procedure:**

**Phase I: Procedure for selection of sample for objective-1**

*Session 1:* Director of Mediwave IVF and fertility research hospital in Mysore City was contacted and explained in detail the nature of the research and its efficacy. Formal permission and cooperation for collecting data from infertile women who are undergoing infertility treatment in this hospital, was requested and obtained.

*Session 2:* In this session infertile women undergoing Infertility treatment were contacted individually and rapport was established. Each of the infertile women (diagnosed by specialists) meeting the specified exclusion and inclusion criteria were contacted. Only those infertile women who were willing to participate in the research program were selected. All the participants were assured of maintaining the confidentiality of their information. Further they were assured that data will be used only for the purpose of research.

*Session 3:* For the purpose of comparing depression and irrational beliefs among fertile and infertile women (objective-1), fifty fertile women in the age group 20-40 years old with proven fertility (either mothered a child or women who got naturally conceived) were randomly selected from various parts of Mysore city irrespective of their area, religion and caste. Equal number of infertile women (N=50) were selected from Mediwave IVF and fertility research hospital in Mysore City.
Session 4: In this session socio-demographic data from fertile and infertile women were collected. Later Beck Depression Inventory (BDI-II) and The Shortened General Attitude and Belief Scale (SGABS), were administered to 50 fertile and 50 infertile women.

Session 5: After collecting the data for objective 1 (comparing depression and irrational beliefs among fertile and infertile women) and analyzing the data the following procedure is adapted for collecting the data for main study.

Phase II: Procedure for selection of subjects for the objective-2 (Main study)

Session 1: 50 infertile women diagnosed by specialists from Mediwave IVF and fertility research hospital in Mysore City were selected for the study as per the inclusion and exclusion criteria. The data were collected using BDI-II and SGABS from 50 infertile women. Following cut off score criteria was used on the research tools for selection the subjects for intervention program (Main study);

1. Score of 20 and above on BDI-II.
2. 60th percent and above on the total scores of (SGAB)

Session 2: Out of 50 infertile women, 40 infertile women were selected randomly. Selected subjects meeting the above cut off score criteria were contacted again and informed about their selection for the main study. Rapport was established once again and explanation was given to them in detail about the intervention program, such as the duration, frequency of session and intervention of treatment (REBT). Informed consent (Appendix-IV) was taken from each subject.

Session 3: 40 infertile women for the main study were selected and randomly assigned and divided into experimental group (N=20) and control group (N=20). Further the experimental group was divided into two batches (10 infertile women in each batch). The experimental group infertile women received 24 sessions of intervention with Rational Emotive Behaviour Therapy (REBT). In this study Manual based intervention was given (David, Kangas, Schnur and Montgomery (2004) for the management of depression and irrational beliefs. The control group did not receive any intervention but they were undergoing medical treatment for infertility.
Session 4: After completing REBT intervention for experimental group, post assessment was done using BDI-II and SGABS for both the experimental and control groups at the same time.

Session 5: 4\textsuperscript{th} week after post assessment follow up was done using BDI-II and SGABS questionnaires for both experimental and control groups to check the progress and to facilitate continued maintenance.

Figure 3.1: sampling flowchart for main study
Phase III: Intervention

REBT Intervention (24 sessions): Detailed description intervention sessions

REBT intervention was carried out as group therapy. REBT intervention was conducted at Mediwave IVF and fertility research hospital in Mysore City, which ensured the homogeneity of the therapy environment. In the present study The REBT intervention consists of 24 sessions, 20 sessions are devoted for treatment (twice a week with 120 minutes duration for each session), two sessions for post assessment and two sessions follow-up meetings. Outline of Treatment Protocol for Group REBT for Depression and Irrational Beliefs given below.

TABLE 3-1: Outline of Treatment Protocol Group REBT for Depression and Irrational Beliefs

<table>
<thead>
<tr>
<th>Name of the Intervention Technique</th>
<th>No. of Sessions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Assessment</strong></td>
<td></td>
</tr>
<tr>
<td>1. Ice Breaking and Warm up</td>
<td>1</td>
</tr>
<tr>
<td>2. Creating the Problem List</td>
<td>1</td>
</tr>
<tr>
<td>3. Goal setting</td>
<td>1</td>
</tr>
<tr>
<td><strong>Managing Depression and irrational beliefs with Behavioral Techniques:</strong></td>
<td></td>
</tr>
<tr>
<td>4. Slow-Breathing Technique</td>
<td>1</td>
</tr>
<tr>
<td>5. Relaxation</td>
<td>2</td>
</tr>
<tr>
<td>6. Activity Scheduling/Planning</td>
<td>1</td>
</tr>
<tr>
<td>7. Social Skills training</td>
<td>1</td>
</tr>
<tr>
<td><strong>Managing Depression and irrational beliefs with Cognitive Techniques:</strong></td>
<td></td>
</tr>
<tr>
<td>8. The cognitive conceptualization of the problem, based on the ABC model</td>
<td>3</td>
</tr>
<tr>
<td>9. D’s – Dispute Negative Beliefs</td>
<td>7</td>
</tr>
<tr>
<td><strong>Managing Depression and irrational beliefs with Emotive Techniques:</strong></td>
<td></td>
</tr>
<tr>
<td>10. Use of Humorous</td>
<td>1</td>
</tr>
<tr>
<td>11. Terminating Therapy</td>
<td>1</td>
</tr>
<tr>
<td>12. Post –Test</td>
<td>2</td>
</tr>
<tr>
<td>13. Follow up</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total Number of Sessions</strong></td>
<td>24</td>
</tr>
</tbody>
</table>
Assessment

Components:

Clinical diagnosis/assessment and General clinical conceptualization

Building a therapeutic relationship (i.e., empathy, collaboration, congruence, unconditional acceptance of infertile women as a person)

Aim/Goals:

The aim of this session is to: (1) arrive at a diagnosis to describe the infertile women’s psychological symptoms, and (2) arrive at a tentative explanation for infertile women’s psychological symptoms in REBT terms that can be used to plan treatment.

Objective:

Build an emphatic and collaborative therapeutic relationship between the therapist and the infertile women to facilitate of the process of the therapy.

Module 1: Ice breaking and Warm up

Rationale:

Any group therapy session begins with ice breaking and warm up session. It is necessary for any group therapy to get familiarized with other members of the group.

Session one is the first opportunity for group members to meet each other with the group leader (therapist) and familiarize with each other. Because the therapist has a lot of information to cover in this session in terms of presenting information, it is important that therapist’s aim for a balance between presenting information and allowing space for group interaction and discussion. Promoting group discussion can take place with the introductions.

It was helpful for group members to introduce themselves and say a little bit about themselves.
In the present study there are 20 infertile women. Two groups of 10 infertile women were formed randomly. In the first session all the 20 participates met together. As a first step of ice breaking session ten groups consisting of two infertile women were formed. Each member of the group instead of introducing herself introduced her partner as her friend regarding her two pleasant and unpleasant events; two best liked and two least liked thing; hobbies and habits.

Aim/Goals

To educate about group, group therapy. Members come in group with varying assumptions and expectations about what the group will be like, ranging from a process oriented group to something resembling a “course,” in which learning is the only goal. Introducing members to group rules help them to understand that REBT group combines elements of learning, like a course, with elements of experience and group support, to provide feedback to one another and ask questions for each other. This will help group members to feel that we are all one. This in turn will help group member to achieve the target.

Also to create group cohesiveness, to bring the sense of oneness among infertile women.

Following the introduction by members, the therapist provided the structure of the group which including the group format (20 sessions, 120 minutes per session) and session format (e.g., homework review, presentation of new material, homework planning). Other key aspects of the pre treatment meeting, such as:

Maintenance of confidentiality, attendance, compliance with homework, and what to do if unable to attend the group were discussed.

Group members were allowed to discuss the extent to which they could/should share information with loved ones.

Discussed about the group roles and the model of intervention group and expectations about group interaction.
Strategies covered in session:

1- Group members were encouraged to share personal experiences of what brought them to the group.

2- Explained to the group members about the structure, concept and techniques that will be done during the session (Appendix-V).

3- Explain about what to expect from this treatment (clarify expectations).

4- To explain and make each participant understand the group rules such as:
   a) Homework: Group members were educated about the importance of homework and instructed to keep daily and maintain on daily basis.
   b) Missing appointments: Information about how to compensate for the missed session (i.e. attending another group session conducted by same therapist for similar problem.

5- Present information on the nature of irrational beliefs and depression

6- Introduce the REBT approach to irrational beliefs and depression.

7- Describe the bio-psycho-social model of depression and irrational beliefs.

Module 2: Creating the Problem List-Maintaining a diary regarding infertility problems, difficulties faced by them

Rationale:

Maintaining a diary on daily basis helps the infertile women to introspect the difficulties and problems faced by them and also to identify sources of such problems.

A problem list created after the pre assessment. The problem list as an “all inclusive list of the infertile women’s difficulties”. In other words, it serves as a summary of all the key concerns raised by the infertile women during the assessment process. The problem list included not only those concerns associated with reasons for treatment, infertility, depression and irrational beliefs but also such issues as unemployment, financial problems, marital conflict, and medical problems. Although some of these problems might not appear to be pertinent to therapy, they may individually add to the problem of infertility. These kinds of problems can precipitate and/or maintain other difficulties; for example, marital problems can precipitate infertility; unemployment
can play a role in the maintenance of infertility treatment. After the assessment session was over, the therapist used this list to begin building a case conceptualization, with the aim of figuring out how these seemingly separate problems might fit together.

Infertile women often came to treatment for vague problems— they feel unhappy, worried, or stressed out, or are engaging in behaviours that they or others view as problematic. In these situations, it is the therapist’s job to develop an understanding of the history of the infertility and current factors that may explain why the problem persists. Understanding what maintains infertile women’s difficulties allows the therapist to devise a treatment plan aimed at altering these maintaining factors.

Objectives:

1- Explained the importance and usefulness of maintaining factors of daily activities.

2- To identify the infertile women’s problems about self, future and the World and life experiences in the past and present.

Module 3: Goal setting

Rationale:

After establishing a therapeutic relationship, which involves the therapist educating the infertile women on REBT and its central concepts, and the infertile women explained the reasons for seeking treatment. Infertile women and therapist prioritized problems and state the goals that will ameliorate the problems of depression, talking to them and writing them down. This serves as the groundwork for therapy sessions; it will be regularly reviewed and reworked if necessary. Establishing this list places the problems in context, and employs a positive approach that demonstrates the manageability of problems. This takes the infertile women’s focus off the depressive symptoms and feelings. For instance, instead of focusing only on the sadness and pain one feels with depression, the goal about the possible solution and that actively pursuing solutions ultimately lessens the sadness or other negative emotions associated with this disorder. The following is a list of problems and goals for a hypothetical infertile women dealing with depression:
### Problems

- Social isolation or withdrawal from activities
- Lack of self-esteem or self-worth
- Conflict with significant other/partner

### Goals

- Identify a social activity(ies) to join or get involved with
- Increased sense of worth and self-acceptance
- Improve relationship with partner

#### Strategies covered in session:

1. **Goal setting.**
   
   a) Discussing about what goals we plan to achieve.
   
   b) Specifying behavioural changes to achieve goals.
2. Outline relationship between mood state and behaviour.
3. Explaining the relationship between activities and mood (i.e., what activities improve mood, what activities worsen mood).
4. Homework: Training and educating on activity schedule (Appendix-VI) and mood ratings.

#### 1) Managing Depression and Irrational beliefs with Behavioural Techniques

Sometimes when infertile women have to deal with a stressful or challenging life situation, or when they are having a particularly hectic day, they may not have enough time or energy to focus on using the cognitive techniques to manage their negative thoughts. On those days, the simple and brief strategies outlined below are alternative techniques infertile women can use to help themselves manage any feelings of distress, negative thinking, fatigue, or other symptoms.

Behavior techniques involve learning practical techniques that help to cope in demanding or stressful situations, such as depression and/or loss. Examples of behavioral strategies include learning how to plan and manage daily schedule, and learning how to distract oneself from negative thoughts.
Module 4: Slow-Breathing Technique

Rationale:

The slow breathing technique helps infertile women relax and calm down so that they can think more clearly and apply the straight thinking strategies. It can also be useful strategy to shift focus away from anxious concerns.

Aim/Goals

The aim is to teach breathing exercise.

The slow breathing technique gives infertile women a breathing rate of 10 breaths per minute. It was best to use a stop watch in practice sessions initially and make sure that infertile women get the feel for the right timing – when they feel anxious there is a tendency for them to feel a bit “speedy” and want to do everything too fast! Trained on making breathe smooth and light. Trained them to breathe through their nose to help limit the amount of air intake and thus prevent over breathing. Breathe through one’s nose will make one feel as though the air is just drifting lightly past their nostrils. Relax stomach muscles. The movement is so light that it is unnoticeable from normal breathing to anyone who may be watching.

Strategies covered in session:

1- Bridge from previous session
2- Introduced and trained about the steps to practice Slow Breathing Technique
3- Home work: Reviewing Daily Record of Breathing Rate (Appendix-VII)
4- Final summary of the session

Module 5: Relaxation

Rationale:

Relaxation is the voluntary letting go of tension. Tension can be physical tension in the muscles or it can be psychological tension. When one physically relaxes, the impulses arising from various nerves in the muscles change the nature of the signals that are sent to the brain. This change brings about a general feeling of calmness, both physically and mentally. Muscle relaxation has a widespread effect on the nervous
system and therefore should be seen as a physical relaxation, as well as a psychological one.

**Aim/Goals**

Muscles are designed to remain in a relaxed state until needed to perform some physical activity.

In normal state, muscles do not remain at a high level of tension all the time, but show fluctuating patterns of tension and relaxation according to the demands that are placed on different muscle groups by a person's daily activities.

The flight or fight response also results in muscle tension. When infertile women have been under treatment for long periods of time, they may maintain high levels of muscle tension. They may experience headaches, muscle pain and fatigue. Ongoing muscle tension may also contribute to the feelings of constant apprehension and irritability. Anxiety may occur more easily. Some minor event, such as an unexpected encounter with a husband, can trigger further tension which in turn can lead to tension. Regular practice of an active relaxation technique can help reduce blood pressure and the production of stress hormones.

**Strategies covered in sessions:**

1- Review of homework
2- Bridge from previous session
3- Setting the agenda for sessions-Training in Relaxation
4- Final summary

**Components: Relaxation Training**

By learning to relax infertile women can reduce general levels of arousal and tension and increase their reserves for coping with challenges.

- Educating infertile women to recognize tension
- Training to relax body in a general
- Training to let tension go in specific muscles
Relaxation Training - Progressive Muscular Relaxation

In progressive muscular relaxation (PMR), the muscles are relaxed in a progressive manner, working way around the body. With regular practice infertile women can learn to better recognize and voluntarily reduce muscle tension. Relaxation is a skill that is learned through regular practice. Infertile women can use PMR to reduce agitation, fatigue, headache, insomnia and improve interpersonal relationship. Tension leads to an increase in cognitive distortion that affects relationship. A relaxed infertile woman can have a calm effect on others, including husband, husband’s family and others.

Progressive Muscle Relaxation (PMR)

Infertile women were trained to tense muscles for about 5 seconds, and then relaxed for 10-15 seconds before tensing again. They begin to relax their muscles directly, without first tensing them. Although it may seem difficult at first, with practice, it can be learned.

Started with some smooth, regular breaths. Thought ‘relax’ before exhale, and felt relaxing more with every breath. Imagined letting go and releasing tension. Begin by relaxing the top of head, then forehead….eyebrows…..eyelids…..jaw…..tongue and throat….lips….entire face. Continued to breathe in a smooth and light way, 3 seconds inhalation and 3 seconds exhale. Relax neck….shoulders….arms….hands……all the way to fingertips. Continued to breathe smoothly…..breathe away the tension. Let the relaxation spread to chest….

Stomach…..waist……and around to back. After relaxed the lower part of body….bottom……thighs…..knees…..calves…..feet……all the way to toes. Continued for a short time to breathe smoothly, lightly, and regularly and feel that relaxed state more with each breath.

After learning relaxation, infertile women could extend this skill to infertility treatment situations by continuing to practice relaxation technique every day.

Every day PMR was taught to them. After assuring (2 sessions) that they are learned it, they were asked to practice PMR every day at home.
Module 6: Activity Scheduling/Planning

Some infertile women may begin to feel overwhelmed by negative thoughts when undergoing their REBT treatment as they try to fit in all their usual day-to-day activities. The aim of this activity is to help them plan their daily and weekly schedule during the course of their REBT treatment.

Planning daily and weekly schedules in advance help infertile women to manage their daily activities, decrease their negative thoughts, control their level of fatigue, and overall, help them feel less depressed and more in control of their life.

Strategies covered:

1- Review of homework
2- Setting the agenda for session- Activity Scheduling/Planning
3- Home work: Completed Activity Scheduling/Planning Form (Appendix-VI)
4- Final summary for the session

Participants were trained for planning a manageable schedule:

(1) Infertile women were trained to write down their weekly treatment sessions.

(2) Infertile women were told to give themselves 3 daily meal breaks - for breakfast, lunch and dinner. They were also informed to include several short (about 10-15 minutes) snacks break during the day.

Infertile women were also informed to allot at least 30-minute daily physical/recreational activity. To engage themselves in activity that they enjoy doing, such as walking, knitting, painting, gardening or attending yoga classes and so on. It is helpful to continue and engage in at least low to moderate levels of physical/recreational activities during the course of their depression treatment and also advised them to make it a regular habit.

(4) Infertile women were told to write down all the daily activities they would like to complete during the course of the day (Appendix-VI). Make sure to list their work activities (if they are employed or self-employed), as well as their regular daily chores such as preparing dinner, laundry, ironing, etc.
Module 7: Social Skills training (SST)

Rationale

Social skills training (SST; e.g., communication training, assertiveness training) is often included as a component of behavioural treatment for a number of different problems, including social anxiety disorder, depression and couple distress. Essentially, the process involves teaching infertile women to identify particular social skills deficits or communication-related behaviours that they would like to change, then targeting those social skills directly during REBT training treatment.

Strategies covered in session:

1- Review of homework
2- Bridge from previous session
3- Setting the agenda for session- Educate on social skills
4- summary of the session

Aim/Goals

To teach social skills to improve their skills in which infertile women are lacking for e.g. communication skills, which will help them to become more assertive to their right and overcome their infertility and infertility feeling.

The goal of SST is to improve the infertile women adequate and effective functioning in social areas and performance situations in order to increase the likelihood of a positive response from others, which in turn may lead to other positive consequences (getting along better with others, becoming an effective presenter, etc.). Table 3-2 given below includes a list of behaviours targeted in social skills training.
### TABLE 3-2 Behaviours Targeted in Social Skills Training

<table>
<thead>
<tr>
<th>General Category</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonverbal communication</td>
<td>Eye contact</td>
</tr>
<tr>
<td></td>
<td>Body language (e.g., personal space, posture)</td>
</tr>
<tr>
<td></td>
<td>Facial expressions</td>
</tr>
<tr>
<td>Conversation skills</td>
<td>Tone and volume of speech</td>
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<tr>
<td></td>
<td>Strategies for starting and ending conversations</td>
</tr>
<tr>
<td>Presentation skills</td>
<td>Refraining from reading a presentation to an audience</td>
</tr>
<tr>
<td></td>
<td>Using humour in the presentation</td>
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<tr>
<td></td>
<td>Strategies for answering audience questions without being defensive</td>
</tr>
<tr>
<td>Assertiveness skills</td>
<td>Asking another individual to change his or her behaviour</td>
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<tr>
<td></td>
<td>Refusing an unreasonable request</td>
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<tr>
<td>Conflict resolution skills</td>
<td>Learning how to defuse an argument</td>
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<tr>
<td></td>
<td>Learning how to deal with situations that may lead another individual</td>
</tr>
<tr>
<td></td>
<td>to become angry</td>
</tr>
<tr>
<td>Listening skills</td>
<td>Listening to other people instead of planning what one is going to say</td>
</tr>
<tr>
<td></td>
<td>Asking for clarification when a statement is unclear</td>
</tr>
</tbody>
</table>

In some ways, presenting the rationale for SST is more straightforward in a group setting than in individual therapy. In individual therapy, infertile women may respond negatively to the suggestion that she needs to work on her social skills. However, in a group setting, these strategies can be brought up more generally, so that no particular infertile women are likely to take the suggestion personally. In addition, it is helpful to begin by having infertile women identify social behaviours that they would like to work on, rather than having the therapist point out social skills deficits of which the infertile women may not even be aware. After identifying particular behaviours to change, infertile women are encouraged to practice and replace problem behaviours with more adaptive behaviours, perhaps after modelling by the therapist or other group members.
II) Managing Depression and Irrational Beliefs with Cognitive Techniques

Although one may not always be aware of one’s thoughts, but this can have a strong effect on how one feel and behave in response to a particular situation or event.

Module 8: The cognitive conceptualization of the problem, based on the ABC model

Rationale:

To teach infertile women the ways of approaching infertility problems and prepare the infertile women to face the infertility issue adequately and effectively. This module is designed to teach cognitive restructuring and prepare infertile women to identify and handle cognitive errors which would mediate reappraisal of infertility problem.

Aim/Goals

1- To identify cognitive errors associated with infertility
2- To teach REBT to overcome cognitive errors.

Component:

Cognitive conceptualization and techniques are specific strategies to change or modify unhelpful and/or negative thoughts concerning infertility. (For example, learning to change one’s thoughts to cope better with one’s depression). Cognitive techniques are major therapeutic intervention in REBT, which focuses on irrational belief as the root cause for emotional disorder (Corey, 2009).

Strategies covered in session:

1- Review of homework
2- Bridge from previous session
3- Setting the agenda for each session (three sessions)
4- Educate the A-B-C approach in REBT to know their irrational beliefs.
5- The cognitive conceptualization of the problem, based on the ABC model
6- Setting new homework: Dysfunctional Thought Record (DTR; situation and emotion) to be completed (Appendix-VIII) and identifying the distortion.
7- Final summary of the session
The cognitive conceptualization of the problem, based on the ABC model is a core cognitive technique in REBT. Infertile women are first taught the A-B-C model or theory of personality functioning, in which A stands for Activating Events, or situation encountered by them (e.g. infertility); B for the Beliefs that are triggered by the activating events (e.g. I must be bad wife, I should become pregnant, I must become mother) and such beliefs are usually irrational, dogmatic, absolutistic and negative; and C for the Consequences (emotional and behavioural) of the beliefs, for example, feeling depression, feels worthless, useless, sad and avoidance of embracing situations (e.g. birthday party of children). Infertile women thus learn that A does not lead to C, but rather A triggers B, which then leads to C. They must understand that their Irrational beliefs are triggered by activating events in their lives which lead to their emotional disturbance and well as to their behavioural problems. For example a woman who has a history of infertility with a biological predisposition for low moods combined with tendencies towards negatively interpreting how she is viewed by mother in law.

- The A (Event): mother in law or other pregnant women doesn’t acknowledge her presence or neglect her or ignore her.
- Inferences about the event: My mother in law ignoring me; she does not like me.
- The B (Beliefs about A):
  1. I could end up without my husband family and that would be terrible!
  2. For me to be happy and feel worthwhile, people must like me.
  3. I am unacceptable to my husband’s family so I must be worthless as a person.

- The C (Feelings and Behaviours): Feels sad, unhappy, rejected, lonely, depressed, avoiding people generally.

The Therapist in REBT then helps the infertile women to go on to D, for disputing their irrational beliefs in a vigorous, active and direct way. First demonstrated by therapist with example taken by infertile women’s life experience and then practiced by the infertile women. Finally infertile women learn to identify E or the Effect, of their strong and vigorous disputing of their irrational beliefs, which may lead to experiencing of less emotional disturbance or feeling of depression and anxiety and

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more satisfying and stable feeling such as concern and even happiness and contentment. Infertile women therefore may learn the A-B-C-D-E approach in REBT to dispute their irrational beliefs.

(a) Re-learning of A-B-Cs:

According to the cognitive theory, the effect that our thoughts can have on our physical, behavioural and emotional responses to a particular situation can be illustrated using the following example:

Person 1:

A (Activating Situation) = husband did not attend my repeated phone call  
B (Belief B (Beliefs)) = I must have done something to upset him. I must be a horrible person.  
C (Consequence/Effect) = upset, depressed, sad, unhappy

Person 2:

A (Activating Situation) = husband did not attend my repeated phone call  
B (Belief B (Beliefs)) = probably he is busy and has no time to get back to me yet.  
C (Consequence/Effect) = Content, neutral

The above example shows how two people may experience the same situation (e.g., having a husband not attending to one’s telephone call), but have very different reactions to the event based on how they interpret and evaluate the situation according to their thoughts and beliefs.

(b) How to think in a more positive and more rational way – The alphabet approach (A-B-C-D-E-F):

A (Activating Events)

Therapist encouraged infertile women to focus on monitoring the times when they feel particularly sad or upset (from the diary they had kept).

EXAMPLE: I feel depressed because of my unsuccessful infertility treatment, and wonder how I am going to get through the rest of my life.

Before we move on to beliefs (B’s), first focus on consequences (C).
C – Consequences following the events

There can be three types of consequences. Infertile women may experience one, two, or all three of the following:

1. Unhealthy negative feelings; for examples (e.g., depressed mood, fear, rage). Therapist may encourage infertile women to write in whatever words best describe the experience of infertile women.

2. Unhelpful behaviours; These are things you do that are unproductive or harmful in some way; for example avoiding people generally, stop trying infertility treatment, … .

3. Negative Physical Consequences of Distress; when people experience an upsetting event, they may experience some physical symptoms. For example, if you argue with your husband, you may find yourself flushed, shaking, sweating, tensed muscles, headache, … .

EXAMPLE: I feel hopeless and sad, I have stopped trying infertility treatment, and I feel even more fatigued.

OK, now we’ll get back to B.

The Key to Change - B (Negative or Unhelpful Beliefs)

• As shown earlier, even though it may seem like one disturbing event (A) leads people to feel upset (C), this is not 100% true.

• In reality, it is not the event that upsets people but it is the negative or unhelpful beliefs (B’s) about the event that upset them.

• So how to identify those negative or unhelpful beliefs

• See if beliefs fall into any of the following categories:

Demands – Check to see if your thoughts contain the words “must,” “should,” or “ought”. For example, you might think, “I must become pregnant!” or, you might think “Life should be fair.”
Awfulizing/Catastrophizing – Check to see if your thoughts involve words like “awful,” “horrible,” or “terrible.” For example, you might think, “I must become pregnant, If I don’t become pregnant that’s AWFUL! I spent a lot of money for treatment.”

Frustration Intolerance – Check to see if your thoughts include “I can’t stand this!” or the word “unbearable.” For example, you might think, “I can’t stand being depressed like this!”

Self-Downing – Check to see if you’re too critical of yourself, or beating up on yourself. Also, check to see if you’re basing your self-worth on one or two minor things. For example, you might think, “I was too tired to make dinner for my husband today. I’m an insensitive wife and a terrible person.”

Other-Downing – Check to see if you’re being too critical of or beating up on others, or basing your entire judgment of them on one or two minor things. For example, you might think, “My husband does not talk with me about my depression. He is totally insensitive and neglects me.”

Life-Downing – Check to see if you are judging all of your life as bad, just because it is not perfect. For example, you might think “Life is worthless because I feel, I am not a mother.”

Remember, negative thoughts are those thoughts that make you feel and/or behave in a negative, hurtful, or unpleasant manner (e.g., feeling depressed, or angry and being short-tempered).

Module 9: Use of a large repertoire of cognitive techniques to dispute and change the irrational beliefs into rational beliefs (D – Dispute Negative Beliefs)

Rationale:

It is the irrational beliefs and cognitive errors which cause depression. Changing irrational to rational beliefs through D-disputing should result in reducing the symptoms of depression. It is through this module feeling of worthlessness, suicide and such other feeling component of depression can be addressed. This will lead to the enhancement of feeling of self worth much needed confidence and self esteem.
Component:

Disputing B, There are three components of A-B-C-D-E module.

After recognizing negative or unhelpful thoughts, the next step is to Dispute or challenge irrational beliefs. Disputes can be directed at the following targets: demands, awfulising beliefs, low frustration tolerance beliefs and depreciation beliefs (where self, others and life conditions are being depreciated). Here the targets of the dispute are preferences, anti-awfulising beliefs, high frustration tolerance beliefs and acceptance beliefs (where self, others and life conditions are being accepted).

Disputing is done by using the following disputing method. DiGiuseppe (1991) argued that disputes fall into one of three categories. First, there are empirical disputes which ask infertile women to put forward evidence attesting to the truth or falsity of the belief. Second, there are logical disputes which ask infertile women to consider whether the target belief is logical or not. Third, there are heuristic disputes which ask infertile women to consider the functionality of the target belief. These disputing methods are targeted at both irrational beliefs and newly constructed rational beliefs. Irrational beliefs are inconsistent with reality, illogical and yield dysfunctional result while rational beliefs are consistent with reality, logical and yield functional results.

Strategies covered in session:

1. Review of homework
2. Bridge from previous session
3. Setting the agenda for each session- REBT method of disputing irrational beliefs
4. Setting new homework : Completed Depression A-B-C-D-E-F Self-help Form (Appendix-IX)
5. summary of the sessions

Structured Disputing: Approaches to structured disputing was taught to infertile women are presented and discussed below:
Approach 1: Disputing Focused on Separate irrational Beliefs

In disputing that is focused on separate irrational beliefs, the therapist focused on one irrational belief at a time and directs the three main arguments (empirical dispute / logical dispute / heuristic dispute) towards that irrational belief before moving on to the next irrational belief.

The therapist provides the same arguments, against one irrational beliefs and rational beliefs, again one at a time. Therapist moved, to question rational belief of infertile women (e.g. her preference) as soon as she has disputed her irrational belief (i.e. her demand).

Disputing Focused on Separate irrational Beliefs will now be illustrated taken from a experimental group. Infertile women’s irrational beliefs are as follows:

Demand: *I must have a child*

Awfulising belief: *It would be awful if I were not having child*

Low Frustration Tolerance (LFT) belief: *I could not stand it if I were not having child.*

Self-depreciation: If *I am not having child, it means that I am an unworthy person*

The infertile women's rational beliefs are as follows:

Preference: *I would like to have a child, but this is not essential*

Anti-awfulising: *It would be bad if I were not having child, but it would not be awful*

High Frustration Tolerance (HFT) belief: *It would be difficult for me to tolerate not having child, but I could stand it*

Self-acceptance belief: If *I am not having child, it does not mean that I am unworthy person. It means that I am a logical human being who is facing a difficult situation.*

In this approach the therapist proceeds further as follows:

Therapist used empirical dispute / logical dispute / heuristic dispute for Demands; reference; Awfulising belief-Anti-awfulising belief; Low Frustration Tolerance (LFT) belief-High Frustration Tolerance (HFT) belief; Self-depreciation belief-Self-acceptance belief.
Thus, the therapist ensured that the infertile women understand and agrees with the idea that there is no empirical evidence in favor of her demand that she must be having child, but there is such evidence in favor of her preference (empirical arguments) before disputing this demand logically. Thus, the therapist persisted with a line of argument within each element of the above structure before moving on to the next element.

**Approach 2: Disputing Focused on Paired Components of Irrational and Rational Beliefs**

In this approach the therapist questions paired components of the infertile women’s irrational belief and rational belief at the same time. The following structure shows how this step by step approach can be used by infertile women on their own.

<table>
<thead>
<tr>
<th>Demand</th>
<th>Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I must have child</em></td>
<td><em>I would like to have a child but this is not essential</em></td>
</tr>
</tbody>
</table>

**Approach 3: Disputing Focused on Arguments I: One Belief at a Time (E – Effective/ Helpful Beliefs)**

*Rationale*

In this approach, the focus of the disputing is on the arguments (empirical, logical and heuristic) and this focus guides the dispute process through asking about, Are the following ideas true or false? Give reasons for your answer; Are the following ideas logical or illogical? Give reasons for your answer.

*Aim/Goals*

Make an effective and helpful beliefs, therapist proceeded as follows: to dispute irrational beliefs, Awfulazing beliefs and self depreciation beliefs and replace it with healthy beliefs or rational thinking.

Demand: *I must have a child*

Awfulising belief: *It would be awful if I were not having a child*

Low Frustration tolerance (LFT) belief: *I couldn't stand it if I were not having a child*
Self-depreciation belief: *If I am not having a child, it means that I am an unworthy person*

Preference: *I would like to be having a child, but this is not essential*

Anti-awfulising belief: *It would be bad if I do not have a child, but it would not be awful*

High Frustration Tolerance (HFT) belief: *It would be difficult for me to tolerate not being having a child, but I could stand it*

Self-acceptance belief: *If I am not having a child, it does not mean that I am an unworthy person, it means that I am a logical human being who is facing a difficult situation*

**Approach 4: Disputing Focused on Arguments II: One Paired Set of Components at a Time (E – Effective/Helpful Beliefs)**

Here the focus of the disputing is again on the arguments used earlier, but this time each paired set of components relating to the irrational and rational belief is considered together. The therapist proceeds as follows:

1. Which of the following ideas is *true* and which is *false*? Give reasons for your answer

<table>
<thead>
<tr>
<th>i) Demand</th>
<th>Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I must have a child</em></td>
<td><em>I would like to be having a child, but this is not essential</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ii) Awfulising belief</th>
<th>Anti-awfulising</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>It would be awful if I were to be not having a child</em></td>
<td><em>It would be bad if I were to be not having a child, but it would not be awful</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>iii) LFT belief</th>
<th>HFT belief</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>I could not stand it if I were not having a child</em></td>
<td><em>It would be difficult for me to tolerate not being having a child, but I could stand it</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>iv) Self-depreciation belief</th>
<th>Self-acceptance belief</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>If I am not having a child, it means that I am unworthy</em></td>
<td><em>If I am not liked by my husband, it does not mean that I am an unworthy person. It means that I am a logical human being who is facing a difficult situation.</em></td>
</tr>
</tbody>
</table>
2. Which of the following ideas is logical and which is illogical? Give reasons for your answer

i) Demand – Preference

ii) Awfulising belief - Anti-awfulising belief

iii) LFT belief- HFT belief

iv) Self-depreciation belief- Self-acceptance belief

3. Which of the following ideas yields healthy results and which yields unhealthy results? Give reasons for your answer

i) Demand – Preference

ii) Awfulising belief- Anti-awfulising belief

iii) LFT belief- HFT belief

iv) Self-depreciation belief- Self-acceptance belief

III) Managing Depression and irrational beliefs with Emotional Techniques

Rationale:

REBT has often been falsely criticized for neglecting the emotive aspects of psychotherapy. However, this is far from the truth. REBT therapists use cognitive and behavioral techniques to target irrational beliefs to eliminate distress; the change in cognitions is therefore not a goal per se, but a means to impact on distress and unhealthy negative feelings.

Components:

Emotive techniques are designed to help patient change their negative thoughts by emotional means. Humorous methods, poems, songs etc. generate feelings that help challenge and change negative thoughts.
Module 10: Use of Humorous (Emotional Techniques)

Strategies covered in session:

1- Review of homework
2- Bridge from previous session
3- Brief check on mood and irrational beliefs (used BDI-II session)
4- Setting the agenda for session
5- Home work: briefly describe the humorous methods used (Appendix-X)
6- Final summary for the session

The use of humour in an appropriate and unique emotive technique is often used in REBT to help infertile women treat themselves less seriously and to put things in proper perspective. Further, humorous methods encourage infertile women to think rationally by not taking themselves too seriously. REBT therapists often favour an informal style of interaction with infertile women.

Therapists employ humour when appropriate, because emotional disturbance can be viewed as a result of taking things too seriously. Thus, humorous style may encourage infertile women to stand back and laugh at their dysfunctional thinking and behaviour, but not at themselves. Consequently, therapists direct their humour at certain aspects of infertile women’s dysfunction, not at the infertile women as a person. Indeed, therapists often direct infertile women humour against some of their own irrationalities and by so doing show that they do not take themselves too seriously. Making fun of at irrational beliefs and exposing their absurdities by humorous, strong language and even the singing of humorous rational songs. The following examples for rational humorous song:

Example 1: Rational humorous song to the tune of “God Save the Queen”:

God save my precious spleen; Send me a life serene; God save my spleen!; Protect me from things odious; Give me a life melodic; And if things get too onerous; I’ll whine, bawl, and scream!
Example 2: Rational humorous song: “When I am so Blue”, to the tune of “The Beautiful Blue Danube”

When I am so blue, so blue, and so blue, I sit and I stew, I stew, I stew! I deem it so awfully horrible that my life is rough and scar able! Whenever my blues are verified, I make myself doubly terrified, for I never choose to refuse to be blue about my blues!

Last part of REBT (A-B-C-D-E-F) is F; F is New More Functional Emotions and Behaviours Including:

Infertile women may the results of all their disputes by changing their negative beliefs into more helpful ones, they are now:

1. Feel better emotionally! For example, infertile women feel more positive (happier, calmer, more relaxed), or less strongly negative (e.g., disappointed/sad vs. depressed, annoyed vs. furious).

2. Behave in a more helpful way! For example, infertile women exercise, pursue infertility treatment and socialize with friends, or pursue a hobby.

3. Feel better physically! For example, infertile women feel more energetic or have less muscle tension.

Termination

Rationale

REBT is a time-limited approach to treatment, and infertile women need to be made aware of this as soon as they begin therapy. Having a clear end point for the treatment process is beneficial in many ways. It provides infertile women with some new methods, skills and means to make changes, when needed. REBT often motivates infertile women to accomplish their most difficult goals.

The idea of teaching infertile women to become their own therapists makes termination more palatable to infertile women in REBT. Terminating therapy means that infertile women are ready to use their newly acquired skills to deal with their difficulties on their own.
It is important that infertile women were sensitized to know that termination of therapy does not mean they need to manage on their own forever. Difficulties do re-emerge, and sometimes infertile women forget what they have learnt in REBT or begin to have difficulties applying what they have learned. This brings therapist back to the importance of realistic expectations. Infertile woman who was treated for depression might begin to have new concerns about low mood or irrational beliefs after failed infertility treatment. They might see themselves as failures—“I’m losing everything that I learned,” or “This is just another thing I’ve totally failed at.” This state of negativity can indeed lead her to engage in dysfunctional behaviours. Infertile women were instructed to bring a summary of what they have learnt in the therapy sessions. They were also asked to make a list of most useful techniques before termination. This included a list of rational responses to counter automatic thoughts and some thoughts on how to refrain from engaging in dysfunctional behaviours. When infertile women are having a difficult time, they can refer back to this sheet and remember what they found useful during REBT.

Infertile women were made to understand the core REBT techniques again and know how to use them. They were sensitized how to be their own therapists. Further, they were helped to set goals for what they would like to accomplish once therapy is over.

These helped infertile women to see for themselves the progress that they have made in therapy and to maintaining a realistic mindset about future. They were assured that if they still have some difficulties, it does not mean therapy was a failure. Similarly, they expected that difficulties of some kind or other might arise again in the future. Again, this does not make the infertile women a failure—encountering difficulties on the road of life is part of the human experience.

**Phase IV: Post-Test**

At the end of the intervention program post assessment was done on the subjects of the experimental and control group with research tools (BDI-II and SGABS) used in stage 1.
Follow-Up

4th week after post assessment follow up was done using BDI-II and SGABS questionnaires for both experimental and control groups to check on progress and facilitate continued recovery.

Analysis of Data

Analysis of data included both quantitative and qualitative analysis. Quantitative analysis of data was done using statistical package of software system version for windows (SPSS-16).

Following statistical methods were employed in the present investigation. In the present study to analyse data descriptive statistical methods (e.g. graphs, mean and standard deviation) and inferential statistical techniques (e.g. Coefficient of Correlations to analysis of demographic data, Independent samples t-test to compare the pre-post-follow up mean scores between experimental and control group; Repeated measure ANOVA analysis of variance to assess the effects of REBT, and effect size calculation in order to determine the portion of independent variables in explanation of variance of dependent variables or to determine the magnitude change occurred due to the applied interventions). Also, the data was analyzed with statistical package of software system – SPSS 16 for windows).

Ethical issues:

1. Written informed consent was obtained from each of the infertile woman who participated in the study (Appendix-IV)
2. Confidentiality was assured and maintained.
3. All the participants were informed about the nature of the study and informed that participation in this research is voluntary and they have the option to discontinue the therapy at any time on demand.
4. Control group participants were taught some skills of REBT and relaxation after the main study and follow up was done.
5. Some of the participants who did not meet the research criteria were offered necessary help along with control group participants.