

## **Effectiveness of Cognitive Behaviour Therapy (CBT) for Psychological Distress in Women with Primary Infertility**

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### **Abstract**

Infertility is a significant reproductive health issue that adversely affect the psychological well-being of women, often leading to anxiety, depression, stress, hopelessness and reduced quality of life. The present study aimed to examine the effectiveness of Cognitive Behaviour Therapy (CBT) in reducing psychological distress among women experiencing infertility. A pretest-posttest one group quasi experimental design was employed in which infertile women experiencing mild to moderate psychological distress participated in a structured CBT- based intervention. Standardized psychological assessment measures Depression, Anxiety and Stress Scale (DASS: Lovibond & Lovibond, 1995), along with Emotional and Social Distress Scale (Naz et al., 2022) were used to measure pre-post responses. Findings indicated that there is a significant reduction in depression, anxiety, stress and all levels of emotional and social distress except ESDS Sexual and Marital issues in terms of pre-post evaluation of scores. The study highlights the importance of integrating psychological interventions into infertility treatment and reproductive health services to enhance mental health outcomes and overall well-being among infertile women.

**Keywords:** Primary infertility, Cognitive Behaviour Therapy, Distress, Women, Mental health

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## Introduction

Infertility is a complex and major cause of psychological problems affecting millions of infertile individuals globally. The childlessness naturally evoke psychological distress such as depression, anxiety, stress, social isolation, stigma, and a strong sense of incompleteness in couples (Naz & Batool, 2017; Yıldız Karaahmet, 2025). These issues may be cognitive, emotional, somatic or behavioral in nature, which could have a negative impact on the person's psychological health and well-being (Hasanpoor-Azghdy et al., 2014). Twenty percent or more of those who are diagnosed with infertility also report having psychological problems.

Although many infertile men and women successfully manage their psychosocial issues, infertility presents numerous hurdles for those who cannot cope with it (Naz & Batool, 2024). Therefore, there is a growing need for effective coping strategies with a variety of psychological anguish for people who are experiencing difficulty. In addition to acting as a trigger for persistent infertility, the anguish that patients experience right after receiving an infertility diagnosis also increases their psychological load. Moreover, it sets off the self-driven vicious loop, which serves as a feedback mechanism for both distress and biological cause. Research shows that infertility causes complex crises that have an adverse effect on every system, including the family, the relationship, and the person (Jurado et al., 2008). Psychological distress is widely recognized as a common consequence of infertility and its treatment, particularly following the diagnosis of infertility and the demanding processes involved in Assisted Reproductive Technology (ART) (Boivin et al., 2011). In response to these psychological challenges, the Human Fertilization and Embryology Authority (HFEA), a UK-based regulatory body overseeing ART treatment strongly encourages individuals pursuing fertility treatment to access counseling and psychological support services. Recent research has further highlighted the substantial impact of infertility on emotional health and quality of life, emphasizing the need for integrated psychological care during fertility treatment (Naz & Batool, 2017; Reisi et al., 2024).

Gameiro et al., (2015) outlined five major paradigm shifts in the field of psychosocial intervention to show how psychology and counselling are effective for infertile patients. The first paradigm shift occurred at the beginning of the 20th century when the psychosomatic model was proposed as a cause in obstetrics and gynecology, explaining why some couples were unable to conceive even in the absence of a medical sickness. The second paradigm shift happened in the latter half of the 20th century, as a result of the nurse "advocacy movement" of the 1970s, which promoted

psychotherapy for childless couples unable to conceive despite medical intervention and prompted an assessment of the psychosocial effects of infertility. The introduction of ART techniques marked the beginning of the third shift, which generated a need for psychological help along with medical treatment. The realization that adopting an integrated approach combining protected fertility treatment with psychotherapy as a need for compliance in fertility treatment is the most recent paradigm shift of the new century.

Intervention lessens psychological discomfort and may also promote marital satisfaction if the symptoms of distress prevent conception, well-being, and marital contentment. As a matter of fact, numerous researches have shown that the intervention leading to conception reduces psychological suffering. Furthermore, depression was found to peak in the second and third years of infertility, and psychological suffering increases with the length of infertility. Therefore, if psychological assistance could be given following the diagnosis, it would lessen the distress in subsequent years (Naz & Batool., 2024).

Importantly, Menning (1980) highlighted and refocused researchers' attention on mental anguish as a result of infertility, leading to the suggestion that patients with infertility should receive psycho-social therapy. After Menning advocacy, regulatory agencies in a number of nations have reiterated the advice to offer psychological assistance to those who are infertile (Human Fertilization and Embryology Authority (HFEA, 1990). Since then, a number of publications have reported unequivocally advised psychological intervention for infertile individuals (Kausar, 2018; Jain & Khan, 2025).

## **Literature Review**

A sizable amount of researches on psychological processes related to human reproduction is currently accessible. Recent studies have demonstrated that CBT significantly reduces infertility related anxiety, depression and psychological distress while improving quality of life among infertile women (Bal & Ucar, 2024). Furthermore, CBT-based interventions have been identified as effective approaches for enhancing emotional resilience, self-acceptance, and adaptive coping strategies in women experiencing infertility (Koochaksaraei et al., 2023). Domar et al. (2000) showed a randomized controlled connection between the mind-body programme and an increased pregnancy rate prior to the initiation of the IVF cycle. Subsequently, both solo and group psychotherapy sessions were associated with decreased levels of anxiety. Maleki-Saghooni et al.,

(2017) conducted a recent review and found that counselling improved the likelihood of conception and decreased the level of distress experienced by infertile patients receiving ART.

According to Boivin (2003), a variety of psychological interventions could be used to effectively achieve the therapeutic goal while working with infertile individuals. Reducing the negative effects of infertility and fostering improved interpersonal relationships are the primary goals of this type of treatment. These improvements in marriage and/or social interactions have further led to improved pregnancy rates. These presumptions stemmed from the finding that, in contrast to 27% of analyses on characteristics and interpersonal aspects like personality traits and marital satisfaction, 49% of studies on undesired affect (such as anxiety and depression) showed beneficial intervention impacts. Unwanted effects, such as anxiety, infertility, and the anguish that goes along with it, were consistently significant when it came to affective distress. Compared to lengthy therapy, short-term therapy has proven more successful.

A systematic review reported that psychosocial intervention considerably increase the mental health among women suffering with infertility. These results support the integration of theory driven approaches to mitigate the psychological suffering in women with infertility. They further reported that, emphasis on cultural context, delivery format and long term follow up should also be considered to increase therapy impact (Jackson et al., 2025).

An additional meta-analysis involving 2746 men and women revealed the effectiveness of psychosocial treatment in reducing the rates of pregnancy as well as the negative psychological effects, such as stress, anxiety, sadness, and marital satisfaction. There was a noteworthy variation in the outcomes for depressive symptoms. Pregnancy rates improved more when there was a bigger reduction in anxiety (Frederiksen et al. (2015).

## **Rationale**

It is astonishing to learn that just a small number of independent studies have evaluated the effectiveness of psychological interventions, despite some sixty years of endorsement of psychological intervention in the field of infertility. Research on published intervention-based research has demonstrated how well psychological treatments work to lessen infertile women's misery. Even though cognitive behavioral therapy (CBT) has been shown to be an effective treatment for depression and anxiety, it is not commonly used in developing and low-income nations like Pakistan for the treatment of infertile individuals. It is proven in different part of the world that infertility leads to heightened level of stress, anxiety, depression and feeling of

inadequacy. Recognizing the multifaceted nature of sterility, there is a dire need for comprehensive research into psychological intervention tailored to address the unique challenges encounter by individuals' navigation infertility. This rationale outlines the imperative for advancing research in this critical area. There is no published research evaluating the effectiveness of short cognitive behaviour therapy (Khushi-or-Khatoon) in lowering psychological distress in samples of infertile women. Lastly, the present evaluation placed emphasis on potential avenues for future mental health professionals research.

## **Objectives**

- Using the Khushi-or-Khatoon therapy guidebook to help women with infertility feel less distressed psychologically.

## **Hypotheses**

H1 There is a significant decrease in Depression, Anxiety and Stress (psychological distress) of infertile women after CaCBT therapy.

H2 There is a significant difference in the emotional and social distress of women after CaCBT therapy.

## **Method**

### **Design**

Quasai experimental design (pre-test and post-test, single group) is used to conduct this research. The true experiment was not possible since there were insufficient participants to divide into two groups at random since the participants' agreement was not available. Furthermore, despite the absence of full randomization, quasi-experimental design is valuable in providing meaningful insight into causal relationship and addressing the research question.

### **Participant**

After screening, the women who could read and speak Urdu, had mild to moderate scores on all DASS, and ESDS subscales, did not participate in any other psychological or relaxation therapy were invited after taking their consent. The researcher gave them a detailed explanation of everything, including their and participants roles. Twenty-one of the fifty participants who were contacted after meeting the inclusion criteria agreed to take part in the intervention study. On the DASS, these twenty-one women fell into the depression moderate level of distress. Moreover, the

Emotional and Social Distress Scale (ESDS) was used to evaluate the subjects. The score of the individuals exceeded the mean by two standard deviations were included.

**Table 1**

Pre- and Post-Intervention, Demographics of Infertile Women Study

| P  | Age     | Family system       | Education  | Profession | Duration of infertility | Cause of infertility |
|----|---------|---------------------|------------|------------|-------------------------|----------------------|
| 1  | 33years | Joint family system | F.A        | House wife | 2                       | Female factor        |
| 2  | 27years | Joint family system | Matric     | House wife | 4                       | Unknown              |
| 3  | 26years | Joint family system | M.A        | Teacher    | 5                       | Female factor        |
| 4  | 24years | Joint family system | Matric     | House wife | 5                       | Unknown              |
| 5  | 23years | Joint family system | Matric     | House wife | 2                       | Female factor        |
| 6  | 38years | Joint family system | Graduation | House wife | 1                       | Female factor        |
| 7  | 32years | Joint family system | Matric     | House wife | 9                       | Female factor        |
| 8  | 23years | Joint family system | Matric     | House wife | 7                       | Female factor        |
| 9  | 22years | Joint family system | Middle     | House wife | 1                       | Female factor        |
| 10 | 35years | Joint family system | Primary    | House wife | 12                      | Female factor        |
| 11 | 29years | Joint family system | M.A        | House wife | 3                       | Unknown              |
| 12 | 24years | Joint family system | F.A        | House wife | 1                       | Unknown              |

*Note: N=12, P= participants*

## Measures

Following are the main outcome measures used in this study.

### **Depression, Anxiety and Stress Scale (DASS: Lovibond & Lovibond, 1995).**

DASS has 21 items with a 4-point Likert scale. The internal consistency of the subscales measuring stress, anxiety, and depression was .90, .91, and .84, respectively. Greater distress is indicated by

higher DASS scores. The participants' replies were measured using the translated Urdu version of the DASS-21.

**Emotional and Social Distress Scale (Naz et al., 2022).** This 34-item assessment tool was created and validated to gauge the psychological issues faced by infertile men and women in Pakistani cultural setting. A self-administered tool, the ESDS assesses emotional and social suffering associated because of infertility in four clearly defined domains: distress, identity and well-being, feelings of insecurity, and sexual/marital difficulties. The existing measure used a five-point Likert scale. The scale's reliability coefficient was.92.

## **Intervention**

The therapy manual (Khushi-or-Khatoon) developed by Naeem et al. (2015) was used in this study. This manual places an emphasis on psychoeducation, symptom management, changing negative thinking, behavioral activation, problem solving, improving relationships, assertiveness skills, and communication skills.

Six sessions of therapy were required in this design of the study. Two sessions were conducted in a day. The researcher is a professional therapist with seven years of clinical experience. She also got training on this particular manual from one of the author of the manual. The self-help manual was also handed over to the client.

The patients and the carers interacted together. Suggestions on how to assist and encourage the patient during therapy were also given to carers. To guarantee consistency across the sessions for each woman, the CaCBT sessions were conducted in accordance with the manual's recommended format.

## **Detail Description of the Session plan**

The self-help guide created by Naeem et al. (2015) served as the model for the cognitive behavioural therapy (CaCBT) employed in this study. There were two sessions, each lasting 40 minutes, with a 10-minute break in between. The overall duration of the sessions was 80 minutes. The purpose of this handbook was to assist infertile women in overcoming physical issues, stress, anxiety, and sadness. The handbook, which was organized into chapters, also assisted the patients in understanding the causes, manifestations, and management techniques of their ailments. It was advised that they read the handbook on their own and with a friend or family member's assistance. Patients were expected to live happy, peaceful lives with new coping mechanisms, approaches to problem solving, and ways to compromise without having to pay for therapy sessions or medications. The fact that this treatment had no adverse effects, which patients typically

experience while taking medication, was another advantage of it.

### **Session-1: Distress Symptoms and Causes**

In the first session, patients were greeted and given an overview introduction of the three-week therapy process and the therapeutic handbook. The patients' availability was guaranteed. The patients signed the consent form and received the handbook. The earliest signs of tension, stress, despair, and anxiety were covered in the first chapter. This chapter covers the presentation of symptoms as well as potential biological and psychological reasons. the effects of the symptoms on behaviour, somatic, emotions, and thought processes. It developed the connection between infertility and the narrative in the handbook. After realizing the effects on their thoughts, feelings, and actions, the patients went on to speak about their own experiences. Following an explanation of the signs and causes, patients were given information on the fight-or-flight response, including how to deal with it and how to take deep breaths. The therapist gave them instructions on how to use the manual's CD that was connected and gave them a Google link to relaxation techniques. After making sure that patients could access the internet using desktops, laptops, mobile devices, or any other way, a Google URL was given. Additionally, patients were informed about the first steps in managing psychological disorders such as anxiety, despair, and stress. It includes lifestyle modifications, calming music, positive imagery, breathing exercises, and methods for improving muscle relaxation and sleep. Information is provided in the handbook (see Khuhi-or-Khatoon manual).

### **Session-II: Behavioural Activities and Emotional Problems**

After a ten-minute break that same day, Session II got underway. The awareness of the connection between behaviour and emotions served as the foundation for this session. People who are depressed occasionally cut back on their activities because they felt lethargic.

However, when someone limits their activities, a vicious cycle begins that makes their activities even more limited and exacerbates their sadness. That lethargy, however, was caused by anxiety and depression. The therapist assisted the patients in identifying and increasing the activities that would lessen their discomfort throughout this session. In this sense, patients received training on how to schedule enjoyable activities and comprehend them. Because expanding one's activities always contributes to a sense of success, happiness, and a reduction in anxiety and despair. Talking to friends, watching entertaining TV, listening to music, beautifying the home, attending parties, playing with kids, and engaging in religious activities (such milad and reciting the Quran) are a few examples of the activities that were offered. then arranged the exercises that the patients and the therapist thought would be beneficial. The patients were introduced to the idea of a graded task

in activities.

### **Session-III: Problem and Problem Solving**

In the third session, the therapist addressed problem-solving techniques and inquired about the patients' issues. Many issues affect infertile individuals, including diagnosis, treatment, personal preferences, family dynamics, and marital relationships (Naz & Batool, 2017). Individuals who are infertile find it difficult to confront and resolve issues. Additionally, there's a connection between problem solving, despair, and anxiety. In the third session, the therapist educated infertile women on the description and identification of the problem. Following this, a list of issues was created and prioritised. After that, the patients ranked which issue needed to be addressed first and in order of importance. Following the brainstorming session, the patients were led by the therapist to consider potential remedies. The cost and benefit analysis of each solution had to be done one by one after a list of the issues had been created. The patients were assisted in selecting the best course of action via this activity. The therapist assisted the patient in setting specific, attainable goals as opposed to abstract, undefined concepts. The patients were instructed to divide the solution into more manageable steps by the therapist in the following phase. Ultimately, the strategy developed over several phases was put into action. After the problem-solving exercise in the session, the results were reviewed to identify any obstacles or errors made in putting the answer into practise and to improve the decision-making abilities for the following problem-solving exercise.

### **Session-IV: Thoughts, Emotions and Somatic Symptoms**

In CBT therapy, thought analysis is crucial. Patients typically have little knowledge of their own ideas and life events. Since initiating stimulus isn't thought to be all that significant. Happiness and melancholy are determined by the viewpoint from which the thoughts are viewed. After receiving assistance in understanding the notion of emotions, patients were asked to identify their own feelings after sharing an image of various emotions. The topic of recognition of cognitions which are words, images, or memories that come to mind as a result of an event, was discussed in this session. It could manifest as inner voices or self-talk. Human minds are automatically preoccupied with thought, and they do so constantly. Patients with anxiety and depression tend to think far more negatively than average people do. Their perspectives are divergent.

We refer to these ways of thinking as cognitive mistakes. These negative sentiments are triggered in mentally disturbed patients and are not under their control. Depression, worry, and misery are brought on by these ideas. Most of the time, patients are unaware of the connection between their ideas, actions, and associated cognitive errors (such as overgeneralization, jumping to conclusions,

selective abstraction, minimization or magnifying, and personalization). The patients in this session recognized the connection between emotion, physical problems, cognition, and behaviour.

### **Session-V: Dealing with Thoughts**

Patients learned how to manage their thoughts and emotions in session V. It was hard to get them to think differently. After some practice, patients were able to change their negative ideas or swap them out for good ones. During the workshop, tactics for altering one's focus and distracting oneself were practiced. The therapist taught the patients many techniques for challenging notions, such as logical and reasonable arguing, in order to examine the veracity of the thoughts. The goal was to instill in the patients the habit of critically examining their cognitive processes whenever they experience feelings of anxiety, depression, or rage. The patients were instructed to think the alternate balance thoughts in the following phase. The patients were given the realization that there are other alternative perspectives on the matter. To generate alternative ideas, patients could pose a series of questions (e.g., what would my friend think in this scenario, what would have happened if this had happened in the past, etc.). Patients were prompted in this way to seek out a balanced viewpoint, which is frequently more optimistic than spontaneous pessimistic ideas.

### **Session-IV: Assertiveness Training, Conflict Management and Ways to Improve Relationships**

When patients are unable to appropriately communicate their emotions, depression and anxiety are triggered. Patients who were infertile suffered as a result of improper communication techniques, such as lying when asked about their menstruation, pregnancy, or diagnosis. They suffered greatly from other people's behaviour towards them as well.

Patients were asked to talk about inappropriate communication styles, as being overly clever, aggressive, or subservient. Next, "Assertive Behaviour" was taught to the patients, which allowed them to express their desires and dislikes to people directly. Additionally, assertive individuals attempt to understand the feelings of others and communicate their wants, thoughts, and feelings honestly and without anger. Consequently, assertive individuals experience lower rates of anxiety, depression, and other mental health problems. One further crucial aspect of assertiveness is considering the effects of one's actions before expressing them. If you are not expected to be assertive, then make small changes gradually. Adopting aggressive gestures and practicing assertiveness in less hazardous situations are the initial steps towards becoming an assertive person.

During the seminar, other helpful techniques were also covered, including the art of denial technique, I-statement, fogging, cold, broken record, and transfer. Relationship problems are the leading cause of anxiety and sadness in Pakistan. The findings of study I indicate that the relationship appears to be hampered by infertility (Naz & Batool, 2017). While some people were better at handling conflict, others struggled with it. If the spouse was unable to work out their differences, it seemed to negatively affect the entire family and possibly involve other people as well. The therapist talked about the causes of disagreements, including strong opinions, passionate debates, a combination of positive and negative aspects, and individual values. The therapist then assisted the patients in coming up with solutions to their problems. For instance, instructions on how to convey the idea clearly were given. They were advised to speak fully, exactly, and listen intently; even if they were unable to resolve the disagreement, they should at least acknowledge it. They also learnt how to express their concerns effectively by using straightforward language. Eventually, they will be able to lead normal lives thanks to this constructive communication style.

### **Procedure**

This pre-post study was conducted at infertility centers, private and public hospitals in Lahore. The head of the hospitals, as well as the ASRB of Government College University in Lahore, Pakistan, legally approved the study. After taking their permission to take part in a three-day intervention Programme, participants received pre-assessment instruments. Written informed consent was obtained, verbal and written information about the study was given to the participants. A brief CBT session was administered to participants who gave their consent. At the beginning and end of the intervention, participants underwent assessments. Sessions were conducted on Individuals basis. Every week, two sessions were held in a single day. During the final session, patients were informed about the end of the sessions and requested that their carers assist them with reading, comprehending, and applying the therapy using the self-help manual. After the first six months of therapy, a second follow-up appointment was also scheduled.

Individuals who attended two sessions or fewer were deemed to have discontinued their therapy. At baseline, participants provided contact information and consented for the researcher to contact them for follow-up assessments and therapy. After five attempts to reach someone on the phone, someone was deemed a dropout. Some people did not attend for therapy and instead went to a different institution for medical care. Moreover, the study included participants who attended four sessions but were unable to visit the hospital. Out of the 21 participants, 12 women could be reached at the conclusion of the treatment and had adhered to all sessions and the post-assessment.

**Table 2***T-test for Pre and Post Scores of DASS and ESDS*

| Scales                         | <i>M/SD</i> | <i>t/p</i> |
|--------------------------------|-------------|------------|
| DASS Depression                |             | 12.11***   |
| Pre                            | 17.50/1.93  |            |
| Post                           | 6.00/2.66   |            |
| DASS Anxiety                   |             | 8.33***    |
| Pre                            | 12.66/1.49  |            |
| Post                           | 5.50/2.06   |            |
| DASS Stress                    |             | 11.10***   |
| Pre                            | 23.33/1.96  |            |
| Post                           | 10.16/3.90  |            |
| ESDS Distress                  |             | 5.27***    |
| Pre                            | 60.83/5.11  |            |
| Post                           | 42.83/11.76 |            |
| ESDS Identity & well-being     |             | 2.34***    |
| Pre                            | 28.91/3.55  |            |
| Post                           | 18.83/4.58  |            |
| ESDS Feelings of Insecurity    |             | 2.95***    |
| Pre                            | 30.50/4.50  |            |
| Post                           | 21.58/3.75  |            |
| ESDS Sexual and Marital Issues |             | 1.68       |
| Pre                            | 18.16/2.79  |            |
| Post                           | 17.41/3.36  |            |

N=12, \*\*\* $p < .001$ , DASS= Depression Anxiety and Stress Scale, ESDS= Emotional and Social Distress Scale.

Table 2 results show that the pre- and post-CBT intervention ratings for depression ( $M=17.50$ ,  $SD=1.93$ ), anxiety ( $p < .001$ ), and stress ( $p < .001$ ) change significantly. The results also show a significant difference in Identify & Well-Being ( $p < .001$ ), Feelings of Insecurity ( $p < .001$ ), and Distress ( $p < .001$ ). Findings on variables less impacted by CBT therapies were examined, and non-significant results were reported for Sexual/Marital Issues (ESDS) ( $p > .001$ ).

The differences between the pre- and post-intervention levels were analysed in the current study using paired sample t-tests. According to de-Winter (2013), analysing a paired sample t-test on a smaller sample (even 5 cases) does not raise any fundamental objections.

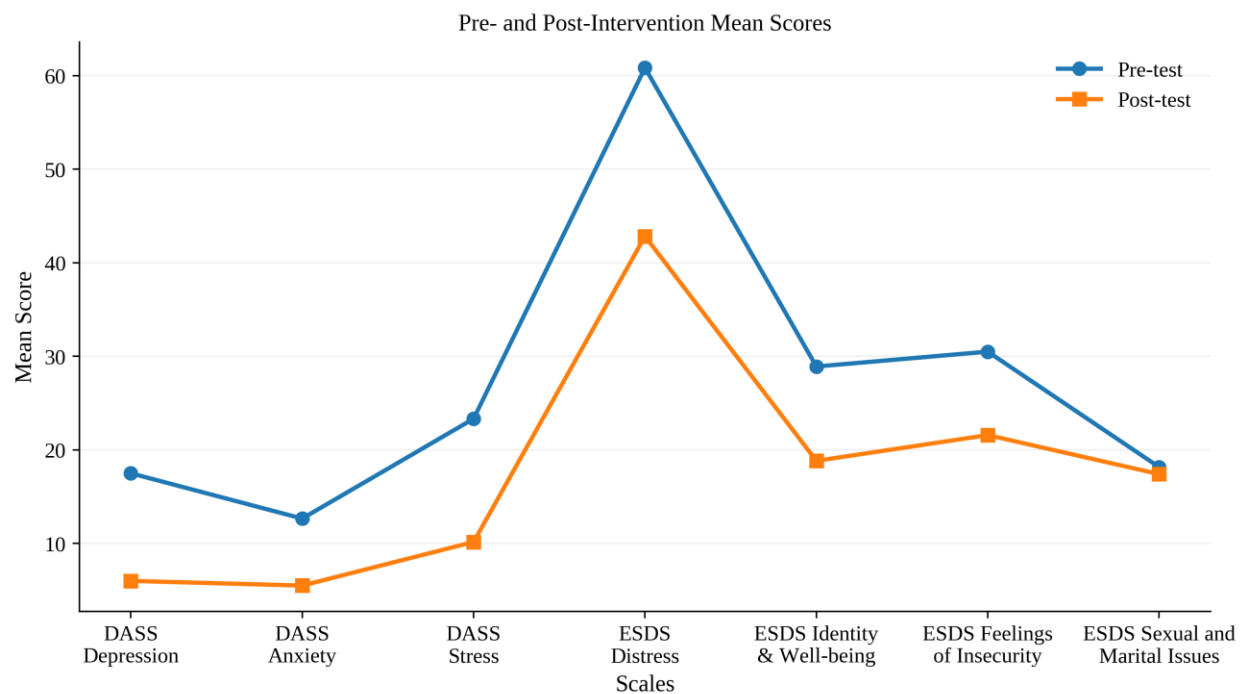


Figure1: *Showing the line graph of pre and post assessment levels*

## Discussion

The purpose of this study was to evaluate the efficacy of CaCBT for psychological distress in a sample of women with infertility and to lessen their level of discomfort. The greatest reduction were observed in overall infertility related distress, similarly, reductions were evident across dimensions, including depression, anxiety and stress. The findings suggest that the intervention successfully alleviated general psychological distress while simultaneously addressing infertility-specific emotional concerns. Such findings are consistent with cognitive behaviour theory, which

process that modifying maladaptive cognitions, dysfunctional beliefs and avoidance behaviour reduces emotional distress and enhances adaptive coping (Beck, 2021).

Depressive symptoms decreased significantly following the intervention, suggesting improved mood and emotional adjustment. CaCBT likely reduced self-blame, helplessness and negative beliefs related to infertility by promoting healthier cognitive patterns and culturally appropriate coping strategies. This finding is consistent with previous CBT research among infertile women (Bian et al., 2024). Participants also showed reductions in anxiety after the treatment. CBT techniques such as cognitive restructuring, relaxation and problem-solving may have helped women manage uncertainty and fears associated with infertility. This result supports earlier evidence demonstrating the effectiveness of CBT in reducing infertility related anxiety (Li et al., 2016). Moreover, stress levels declined considerably following the intervention, indicating improved coping with infertility-related challenges. The finding aligns with evidence that culturally adapted interventions produce better psychological outcomes (Abdollahpour et al., 2022).

Improvement in identity and well-being suggest that participants developed a healthier self-concept and greater psychological resilience. CBT helped participants separate their self-worth from infertility by challenging dysfunctional beliefs and encouraging balanced self-evaluation. Similar improvements have been reported in previous studies (Szigeti et al., 2024). In addition to that feeling of insecurity also decreased after the intervention, reflecting greater emotional confidence and adaptive coping. Cognitive restructuring enabled participants to challenge fear related to social stigma, relationships and future uncertainty. These improvements are particularly relevant in cultures where infertility carries significant social pressure. This was an indigenous finding that might be in patriarchal cultural fear of second marriage or divorce are more than in western culture where adoption is considered normal. The results of the current study showed non-significant improvement with regard to the sexual and marital issues despite Hwang et al. (2024) reporting that distress could indirectly increase marital problems and sexual dissatisfaction. This could be the result of male spouses not attending therapy sessions. Furthermore, the content of marital and sexual solutions to the difficulties that were hypothesized to produce the non-significant results was not included in CaCBT therapy. Future marital and sexual issues may be resolved with combination sessions with both couples and infertility-specific intervention.

Overall, the findings support that CaCBT as an effective intervention for reducing psychological and infertility-related distress among infertile women. Incorporating cultural values, family context and culturally relevant therapeutic strategies likely enhanced treatment acceptability and

outcomes. These results are consistent with the ecological validity framework of culturally adapted interventions (Dube et al., 2023).

## **Implication**

Couples undergoing infertility treatment may find that the quick CaCBT self-help method helps them feel less depressed and anxious. For people who are struggling with infertility-related concerns and are experiencing numerous obstacles in getting over the issues, it may offer a practical and efficient alternative method of getting immediate access to a brief and appropriate psychiatric intervention for despair and anxiety. This research makes a significant addition to the body of knowledge on infertile women. When compared to a 16-session long-term therapy programme, the intervention is comparatively inexpensive. Therefore, it is an affordable method of self-help manual therapy to lessen moderate levels of anxiety and melancholy associated with infertility. By lessening the infertile person's distress, the psychological intervention may increase the efficacy of medical treatment.

## **Limitation and suggestions**

This study has certain limitations that should be considered when interpreting the findings. The use of non-randomized, single-center sample from Lahore, coupled with a relatively small sample size, participant's attrition, limited awareness and acceptance of psychological interventions among infertile individuals, may have affected recruitment and the generalizability of the findings. Future research should employ adequately powered, multicenter randomized controlled trials involving both infertile men and women and evaluate culturally tailored, infertility-specific psychological interventions integrated within routine reproductive healthcare services to enhance accessibility, engagement, and treatment outcomes.

## **Conclusion**

Infertile people experienced higher levels of discomfort during their infertility journey, including stress, anxiety, and despair. Psychological intervention helped to lessen their distress. After six sessions, twice a week, the women's scores on the DASS and ESDS significantly decreased, demonstrating the efficacy of culturally appropriate cognitive behavioral therapy (CBT) for infertile women with mild to moderate depression, anxiety, and stress. However, more study on the same subject is required to assess the effects of psychological psychotherapy during infertility.

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