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CASE STUDY

Treatment of Postpartum Depression via Guided Internet-Based Cognitive Behavioral Therapy: A Comprehensive Case Study

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ABSTRACT

This case study aims to analyze the efficiency of the guided internet-based cognitive behavioral therapy (iCBT) in treating postpartum depression (PPD) of a 29-year-old primiparous woman with moderate symptoms of sadness, guilt, and fatigue (EPDS: 17; GAD-7: 11). The client went through a standard iCBT program that was comprised of psychoeducation, behavioral activation, cognitive restructuring, mindfulness, problem-solving, self-compassion, and relapse prevention for client over eight weeks with weekly therapist guided therapy sessions. Clients showed significant improvement in symptoms of depression and anxiety in Post intervention assessment (EPDS: 6; GAD: 4). The flexibility of programs, well-structured content and therapist support during online sessions facilitated the engagement of client and highlighted the potential of iCBT as an accessible and effective treatment for PPD. This case shows that there is a need to conduct more research on the effectiveness of the treatment eventually to explore the possibility of implementing iCBT as an integral part of maternal mental health care.

KEYWORDS: Internet Based Cognitive Behavior Therapy, Postpartum Depression

Introduction

The transition to motherhood is a challenging time when women navigate changes in their identity, interpersonal relationships, emotional and physical health (Finlayson et al., 2020). The birth of a child is something which is supposed to be a joyful experience in a woman's life. However, for many women, childbirth is marked as a time of increased risk of developing mental health issues (Moya et al., 2023). Postpartum depression is estimated to affect 10 to 15 % of primi mothers every year across the globe. In contrast to the developed countries, PPD is more commonly documented in the resource constrained countries (Gulamani et al., 2013). Postpartum depression is known to affect 28 to 63 % of women in Pakistan (Bhusal et al., 2016) and is associated with previous history of mental disorders, psychological problems during pregnancy, domestic violence or inadequate marital relationships, and lack of social support (O'Hara & Swain, 1996). Other parameters play a crucial role in determining the maternal and fetal outcome including low socioeconomic status and restricted access to health care facilities (Halbreich & Karkun, 2006).

In the realm of the medical field, depression is described as a condition marked by enduring feelings of sadness, lack of interest in enjoyed activities and difficulty in performing daily tasks for a sustained period of at least two weeks. Postpartum depression (PPD) refers to the depression experienced by women after giving birth and is recognized in the 5th edition of Diagnostic and Statistical Manual of Mental Disorders as having a specifier related to peripartum onset (Casey et al., 2013). Some authors have discussed the occurrence of depressive and anxious symptoms in women and likened

them to postpartum blues which is a concept characterized by the episodic symptoms of distress and a sense of dysphoria that resolves over time (Luciano et al., 2021).

Postnatal depression is based on the severity and duration of symptoms experienced by a mother after giving birth; it is influenced by changes due to sudden drop in hormone levels after delivery, which has lasting impact on her psychological wellbeing and social interactions as well as physiological changes in her body. Depression can also be addressed in some other ways like medication therapy, psychotherapy, or a mix of both approaches (Slomian et al., 2019).

Cognitive Behavioral Therapy (CBT) as highlighted by research findings; is recognized as an efficient approach that yields outcomes in the treatment of postpartum depression (PPD) (Nillni et al., 2018). The core principle of CBT lies in the understanding that thoughts shaped by experiences and beliefs play a role in influencing emotional and behavioral reactions (J. Beck, 2011; Wenzel & Kleiman, 2021). In the context of PPD care strategies focus primarily on addressing and managing thoughts that surface during challenging postpartum transitions.

Postpartum depression can effectively be addressed through cognitive behavioral therapy by focusing on parenting beliefs and the need for both psychological and emotional support. Changes in partner dynamics also play a role in this treatment approach (Batt et al., 2020; Finlayson et al., 2020; O'Mahen et al., 2013). Recent progress in health care has made internet based cognitive behavioral therapy (iCBT), whether supported by a therapist or not, as a feasible alternative. Guided internet based cognitive behavioral therapy (iCBT) involving either time or non-real time support, from trained experts or assistants tends to produce results compared to unguided iCBT (Cuijpers et al., 2019). The current case study employed guided iCBT with audio and video online meetings for therapeutic support.

Case Description

Alia (*Pseudonym*) is a 29-year woman, with a one-year-old child, she holds an MBBS degree but is currently not working. Her essential information was omitted from the case study to ensure confidentiality. The client consented in written form to publish her case as a case study for educational purposes. Alia contacted the psychologist online after a referral from her friend.

She sought therapy to help alleviate worsening feelings of depression after giving birth to her 1st baby. She reported being gloomy and depressed all the time and sad most of the days; along with taking care of her child she did not feel pleasure in things she used to enjoy. She remained tired all the time and could not sleep well at night; she used to get annoyed easily and had worthless feelings. She also reported a decreased appetite coupled with troubled focus. This had been going on for more than two weeks in a short span of 2 months' time. Alia mentioned that she was all alone while struggling to keep up with household duties and had no support from her partner or in-laws. She also expressed concerns about her baby, who used to cry most-of the time, seemed restless and hard to soothe. Her financial worries made her distress even worse.

After building the rapport Alia opened up that how this downcast started right after tying the knot with her partner. She spoke about the mistreatment, constant criticism and belittling of both her and her parents' family from her in laws. Her husband was devoid of affection and maintained distance from her while keeping his parents' desires ahead of everything. These issues were escalated during her pregnancy, which

was planned but went through without emotional support, from her in laws as well as from her husband. During her pregnancy Alia took care of herself independently since her husband was often busy with work and social events.

After giving birth to her baby Alia experienced depressive feelings which were increased over time. The early months were particularly challenging for her as she felt anxious and fearful about taking care of her newborn. The worries of holding, bathing, and feeding the baby intensified her sense of incapacitation and feeling of isolation. Her husband's failure to understand her difficulties and a sense of unfriendly relationship deepened the void between the couple and added salt to the injuries of Alia. These issues led to a temporary separation where Alia stayed with her parents.

Alia faced challenges with her wellbeing due to her family's history of depression and schizophrenia. Her mother was dealing with schizophrenia and struggled to have support. Alia's father arranged for a housekeeper to help with childcare and household tasks. Despite this assistance Alia continued to experience symptoms such as anger outbursts and emotional distress aimed at her parents and in laws. She had become strict with her infant too; she scheduled a strict plan for her baby regarding his feeding and sleeping etc. Her behavior inflicted the feelings of guilt on her that she was becoming harsh or ignorant towards a quite young child. She did not share her emotional issues with the people around her as she thought they were not able to help her in this condition. She felt pressurized by her in-laws and society giving her 100% to the child and after this perception her self-care routine had become zero. She also developed anxiety about general things in daily life. She mentioned finding it tough to show affection towards her child, feeling overwhelmed by a sense of helplessness. The story highlights the issues within families and shows the psychological pressures that led Alia to experiencing postpartum depression emphasizing the importance of specialized therapeutic treatments.

Assessment

Before commencement of the treatment process, three evaluation sessions were conducted to gather information and assess the situation. The sessions involved filling out a case history sheet which included details like information on current issues faced by the client and a comprehensive history of her background. Following this, the client was given self-report inventories. The therapist also studied the client's experiences to identify the factors affecting Alia's life in various aspects, like (family, work, academics, interests, motivations, sexual life, social life, parenting, and health). Progress was monitored through assessment tools, like EPDS and GDA-7 as well.

Measurement tools

The Edinburgh Postnatal Depression Scale (EPDS) developed by (Cox et al., 1987; Garcia-Esteve et al., 2003) is a tool used to assess symptoms during the postpartum period. The scale consists of 10 items that inquire about symptoms experienced over the week. Among these items are three questions with response options ranging from " much, as ever" (0) to "Not at all" (3). The remaining seven factors go in the range from 0 (Never or No.) to 3 (Mostly Yes). Combined scores can vary from 0, to 30 with scores indicating severe depressive symptoms.

Generalized Anxiety Disorder Scale (GAD-7) developed by (Johnson et al., 2019) is a tool for screening anxiety disorder and evaluating symptom intensity consists of seven items. It is known for its strong validity (Spitzer et al., 2006) and reliability. The

scores are determined by assigning values of 0 to 3, for the categories "I never feel that way " "a day," " days," and "almost every day." The total score of the seven items, in the Generalized Anxiety Disorder questionnaire, ranges from 0 to 21.

The Maternal Self Efficacy Scale developed by (Teti, et al. 1991), assesses mothers' confidence in their ability to perform caregiving duties within situations or contexts. The scale employs a 4-point rating system (ranging from 1= much worse to 4= better, than others) with item scores combined to calculate an overall score. In general, among mothers in comparison, with others the ability of a mother to engage with her child is greater if she has a score showing increased self-confidence.

Depression evaluations were done at the start of every session with the psychologist, using questions created by the research team. Participants were asked, "How are you feeling today?". On a scale of 1 to 10 how would you rate your mood?" The scale ranged from 1 (no signs of depression), to 10 (depression symptoms).

Session Structure and Organization:

The summary of sessions given below is based on guided internet-based Cognitive Behavioral Therapy (Andersson et al., 2014; J. Beck, 2011)

Table 1
Weekly Guided ICBT Modules and Activities

	Focus of the weeks Module	Key Activities	Therapeutic Techniques	Therapist Feedback
1	Assessment & Psychoeducation	Assessment Introduction to postpartum depression (PPD). Overview of CBT and its principles. Normalizing maternal challenges.	Psychoeducation Normalization and validation.	Reassured the patient that PPD is common and treatable. Encouraged module completion.
2	Behavioral Activation	Identifying pleasurable and meaningful activities. Using an activity log to track engagement. Gradually increasing activity levels.	Activity scheduling. Graded task assignment. Reward system to enhance motivation.	Suggested balancing easy and challenging activities. Praised small successes.
3	Cognitive Restructuring	Identifying negative automatic thoughts (NATs). Learning to challenge and reframe maladaptive beliefs. Practicing thought logs.	- Cognitive restructuring. Thought records. Guided discovery through Socratic questioning.	Highlighted patient's successful reframing attempts. Provided additional examples.
4	Mindfulness and Relaxation	Introduction to mindfulness techniques. Practicing body scanning deep breathing. Incorporating mindfulness into daily life.	Mindfulness-based stress reduction (MBSR). Relaxation training.	Reinforced the importance of daily mindfulness practice and monitored progress.
5	Problem-Solving Skills	Identifying current stressors (e.g., lack of support, fatigue). Breaking problems into manageable steps.	Structured problem-solving. Prioritization and brainstorming techniques.	Encouraged focusing on actionable solutions. Reinforced practical applications.

		Generating and evaluating solutions		
6	Enhancing Social Support	Mapping out a support network. Learning to communicate needs effectively. Exploring community resources for mothers.	Assertiveness training. Social network mapping. Encouraging help-seeking behavior.	Provided guidance on effectively requesting support from family and friends.
7	Self-Compassion and Role Adjustment	Addressing guilt and perfectionism in the maternal role. Practicing self-compassion exercises. Redefining personal values and goals.	Self-compassion exercises. Acceptance-based approaches. Value clarification techniques.	Validated progress and emphasized importance of self-kindness in overcoming setbacks.
8	Relapse Prevention	Identifying warning signs of relapse. Developing a personalized action plan. Summarizing and celebrating progress.	Relapse prevention planning. Strengths-based reflections. Goal setting for maintenance.	Praised patient's efforts throughout the program. Provided resources for ongoing support.

Session 1 & 2 (Week 1): The aim of the 1st and 2nd session was detailed assessment of the presenting problem through interview and three self-report inventories. Moreover, Alia was psycho-educated about CBT. Her common misconceptions about PPD, such as "Feeling sad makes me a bad mother" were addressed. Deep breathing was also taught to the client.

Session 3-4 (Week 2): The aim of 3rd session was to provide detailed information regarding post-partum depression (PPD), focused with the symptoms, causes, treatments and the consequences of not treating PPD. Basic aim of session 4 was to improve activity level through continuing formulation and education about PPD symptoms. At the end of the session Alia had a good understanding of how her activities are linked to her postpartum depression. Homework assignments were introduced. A 20-minute walk daily was scheduled to increase gradually.

Session 5-7 (Week 3): Client was educated about the CBT model and vicious cycle. The focus in these sessions was to facilitate the client in using guided internet-based cognitive and behavioral methods to help her produce change in her thoughts through challenging and experiencing behavioral experiments. Specially making her able to acquire critical thinking skills. Homework focusing on collecting information e.g., thought and feeling worksheet was used to help her learn to differentiate between negative thoughts and feelings. At the end of these sessions, the client was able to understand the concepts of her unhealthy attitudes and incorrect assumptions. She was also asked to mediate on her beliefs and ask herself the questions from the downward arrow technique introduced to her by therapist.

Session 8 (Week 4): Mindfulness and relaxation was continued in these sessions. Body scan exercises and mindful breastfeeding techniques were taught to the client. Asked her to practice 5-minute-deep breathing daily, especially during the moments of high stress.

Session 9 (Week 5): Problem solving skills were taught to client. Sleep deprivation was addressed by brainstorming solutions, such as delegating nighttime

feeding duties etc. She was also taught to prioritize the rest and how to create an alternate sleep/ activity plan.

Session 10 (Week 6): Client was asked to brainstorm her social support system which she identified as her siblings. She was also educated to communicate her needs such as her need of emotional support through assertiveness training.

Session 11 (Week 7): Self-compassion exercises were done in this session. The client wrote a letter to herself as if she had a friend who offered her encouragement. She was taught with self-affirmation technique such as "I'm doing my best, and that is enough".

Session 12 (Week 8): Client was educated about relapse and its prevention. Alia outlined her early warning signs of stress and planned coping strategies. The therapist also guided her to create a self-care checklist, including physical activities, relaxation exercises and social connections.

During the sessions, client reported being "less burdened", after implementing mindfulness during feeding sessions she felt being confident and content. EPDS score reduced to 6, the therapist validated her effort and reinforced mindfulness practices. She expressed increased confidence in her maternal role and experienced fewer episodes of guilt. Therapist highlighted the importance of self-compassion and celebrated her progress.

Table 2
Pre- and Post-Intervention Outcome Measure

Measure	Baseline Score	Post-Intervention Score	Post-treatment scores
Edinburgh Postnatal Depression Scale (EPDS)	17	6	Significant decline in depression
Generalized Anxiety Disorder Scale (GAD-7)	12	4	Anxiety symptoms decreased to least
Maternal Self-Efficacy Scale	42	65	Improved motherly confidence

Results and Discussion

The guided internet-based cognitive behavioral therapy (iCBT) intervention exhibits significant improvement in client's symptoms. Her depression symptoms decreased from a baseline score of 19 (moderate to severe depression) to 7 (normal range), while her anxiety levels reduced from 12 (moderate anxiety) to 4 (mild anxiety). Alia mentioned feeling in control of her emotions and showed more confidence in her parenting skills after undergoing therapy sessions that focused on changing her thought patterns and engaging in activities with her family and husband to strengthen their relationship and communication. She also shared that she now feels closer to her child and is better at asserting boundaries with her in-laws despite facing family issues. The outcomes highlight how guided iCBT effectively helped Alia overcome her postpartum depression and provided her with skills to cope in the long term.

This case study shows how guided internet based cognitive behavioral therapy (CBT) is used to treat postpartum depression (PPD) and proves to be effective. It is aligned with the idea coined by research that treatments, like CBT work and are favored by women after giving birth (Goodman, 2002; Nillni et al., 2018). Guided internet based cognitive behavioral therapy (iCBT) uses modules that are customized for addressing beliefs related to motherhood and the specific stressors experienced during the

postpartum period, in line with Cognitive Behavioral Therapy (CBT) it suggests that thoughts influence emotions and actions (J. S. Beck, 2021; Wenzel & Kleiman, 2021). In this scenario the weekly guidance from a therapist improved adherence and outcomes which supports the idea that guided iCBTs generally lead to results compared to self-directed formats as shown in previous research (Cuijpers et al., 2019). After receiving guidance through iCBT intervention. The patient experienced a decrease in symptoms of depression and anxiety. This demonstrates how iCBT can effectively address issues like stigma and accessibility, in postpartum health care (Andersson et al., 2019).

Guided iCBT has many benefits, its effectiveness depends on factors, like how engaged the patient is and their access to technology as well as how culturally relevant it is. The reliance of the intervention on internet connectivity and digital skills could restrict its impact in communities that lack access, to these resources an issue highlighted by (Karyotaki et al., 2017). Additionally, beyond the present case study's demonstration of short-term results it is the reinforcement of prior suggestions, for future studies to explore the long-term efficacy and scalability of iCBT for PPD among varied demographic segments (Fairburn & Patel, 2017). By integrating elements as proposed by (Gauld et al., 2023) and customizing interventions to tackle challenges such as changes, in relationships and practical support requirements (Finlayson et al., 2020; O'Mahen et al., 2013), the effectiveness and reach of iCBT is further improved. This study contributes to the increasing evidence backing the use of guided iCBT as an efficient option for treating postpartum depression while highlighting its potential for being incorporated into mental health services worldwide.

Conclusion

Guided online cognitive behavioral therapy (CBT) tailored specifically for postpartum depression (PPD) offers an efficient approach, to tackling the condition by providing therapeutic support that is adaptable to the needs of new mothers after giving birth. This detailed study shows how guided online CBT can help reduce symptoms of depression and anxiety by addressing thoughts and promoting wellness using personalized support techniques. The considerable progress in the client's wellbeing demonstrates the importance of incorporating guided CBT into standard postpartum healthcare practices. Offered as an inclusive solution to address the needs of mothers in an effective way is guided internet based cognitive behavioral therapy (iCBT). This approach is grounded in evidence aims to support women in navigating postpartum depression (PPD) challenges while fostering maternal wellbeing.

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