

INTERNET COGNITIVE BEHAVIOR THERAPY FOR POSTPARTUM DEPRESSION

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REVIEW

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ABSTRACT

Background: Postpartum depression (PPD) occurs in 25-50% of those affected with 10-15% of postpartum mothers each year having depressive symptoms that last more than 6 months. PPD is an important public health issue because of its chronic and long-term effects that have significant detrimental effects on mothers, their families, and their child's development. The primary treatments for PPD have included psychological interventions such as physical counseling, interpersonal psychotherapy (IPT), cognitive behavior training (CBT), and problem-focused counseling. However, there is no information about how efficient and suitable these approaches are for postpartum depression.

Objective: This study aimed to examine the efficacy of internet cognitive behavior therapy for postpartum depression.

Methods: A systematic review is a method of study. An extensive search was conducted in Google Scholar, ScienceDirect, Medline, and PubMed to locate detailed indexed articles. The search included articles published, in the last 5 years, from 2015 to 2020.

Results: All 5 studies were Randomized Controlled Trials (RCT) studies, with a total of 481 participants. PPD measurements using self-evaluation scales for depression and structured clinical interviews. Three studies used application programs are MumMoodBooster and one study used Therapist and Be a Mom combined CBT program.

Conclusion: The study looked at the impact of internet CBT on PPD reduction. When compared to the TAU (control group), the findings of this 5 study showed that internet CBT could lower the EPDS score of all mothers in the intervention group (iCBT).

Keywords: cognitive behavior therapy, depression, postpartum.

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INTRODUCTION

Postpartum depression (PPD) occurs in 25-50% of those affected with 10-15% of postpartum mothers each year having depressive symptoms that last more than 6 months.¹ PPD is depression that occurs in some postnatal women with symptoms including anxiety, agitation, irritability, eating and sleeping habits shifts, and extreme fatigue.² As a major or mild depressive starts in the first postpartum year, the PPD phase falls between the baby blues and postpartum psychosis in magnitude and prevalence. Significant detrimental effects on PPD will occur, if neglected, in the mother (mental health, relationships with babies, potentially suicidal behavior), child's development, and her family (partner relationships, partner mental health, interrupted employment).³ The severity of postpartum depression ranges from minimal depression to major depression. The most effective intervention to reduce depressive symptoms used by health workers is psychosocial support.¹

Postpartum depression is more common after a baby is born, and it's linked to life experiences and trauma. Changes in the condition of the mother during the postpartum period need attention and support from health workers to reduce the risk of

depression during the puerperium. Special attention needs to be given to health workers who are concerned with postpartum care for widowed mothers, poor social support, babies who are still in hospital care, and the presence of family members who have died.⁴ Lack of time for mothers in childcare tasks and the unwillingness of mothers to take medication while breastfeeding is among some of the treatment barriers present during the puerperium. The emerging stigmatization presents a fear of mothers and a barrier to treatment for postpartum mothers, fearing that they will be labeled "mentally ill" and their babies do not receive proper care.⁵ Furthermore, psychotherapy-based mental health care is preferred for most postpartum mothers over pharmacotherapy. Pharmacological therapy that harms babies while breastfeeding is what concerns them. The main psychotherapeutic psychological interventions for PPD include interpersonal psychotherapy (IPT), physical counseling, cognitive-behavioral training (CBT), and problem-focused counseling.⁶

In the general public, Cognitive Behavior Therapy (CBT) is regarded as first-line psychotherapy for anxiety and depression.⁷ Women use psychotherapy as an anxiety medication. Pregnant women are more likely than non-pregnant women to prefer psychotherapy (47%). In terms of

anxiety, credibility, and treatment preparation, both groups scored CBT higher than pharmacotherapy. According to the extent of the choice, pregnant women have a slightly higher preference than non-pregnant women.⁶ In people with anxiety problems in the perinatal stage, cognitive-behavioral group therapy was successful in reducing anxiety and associated symptoms.⁸ Bloom identifies the differences that occur in post-traumatic stress and postpartum depression, one of which is that depression develops without the mother experiencing a traumatic event that is sudden and not necessarily the result of childbirth, even though one of the risk factors is a complication of perinatal depression.⁹ As a result, the efficacy of internet cognitive behavior therapy for postpartum depression is discussed in this article.

METHOD

Selection Studies

An extensive search was conducted in Google Scholar, ScienceDirect, Medline, and PubMed to locate detailed indexed articles. The terms "postpartum depression" or "postnatal depression" as well as derivatives of the terms "online CBT" and "cognitive behavioral therapy" were used in the quest. The search included articles published, in the last 5

years, from 2015 to 2020, Figure. 1. This type of research is a systematic review. The following guidelines were used to determine inclusion: (1) papers written in English, (2) articles on postpartum depression, (3) empirical results about internet cognitive behavioral therapy, and (4) experiments that were randomized controlled trials. Mothers with mental illnesses or newborns who died were both ruled out. The investigator included five trials that met her inclusion and exclusion guidelines, which included studies that were (a) presented in a globally recognized database, (b) focused on PPD rather than other types of depression associated with pregnancy (i.e. perinatal depression, miscarriage), (c) used equivalent or comparable tests, and (d) used internet CBT.

Data extraction

An overview of the structure was used to derive identified research features and aspects of the iCBT experiment from each study, including where the study was performed, the number of participants, the type of evaluation used and method of diagnosis, the type of technique used, the number of sessions for each study, and procedures for recruiting, test material, and randomizing participants.

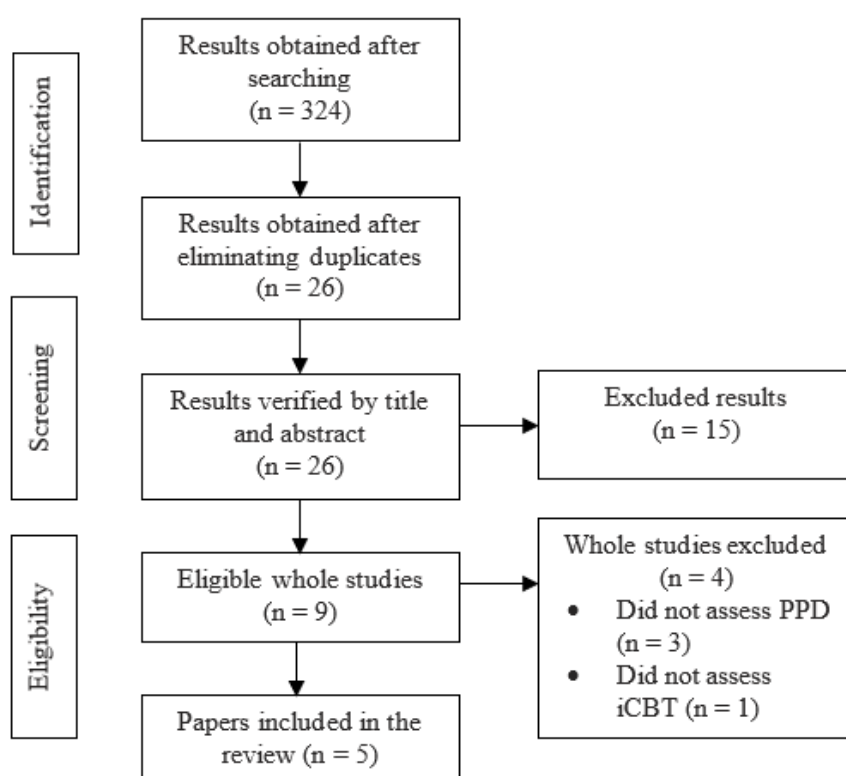


Figure 1. Flowchart for selection of studies

RESULT

Characteristics of studies

Table 1 summarizes the features of the research that met the criteria for inclusion. For a total of 481 participants, all five experiments were Randomized Controlled Trials (RCTs). Many of the experiments enrolled women who had therapeutic grades of self-reported stress or anxiety symptoms, as

determined by clinical threshold ratings on standardized tests. The average recovery time ranged from 4 to 12 weeks.

Assessment of postpartum depression

PPD was measured utilizing: (a) self-evaluation scales for depression (Edinburgh Postnatal Depression Scale (EPDS); Patient Health Questionnaire-9 (PHQ-9); Generalized Anxiety Disorder 7 (GAD-7)) and (b) structured clinical interviews with Structured Clinical Interview for DSM Disorders (SCID-IV).^{3,5,10,11} Fonseca et al. 2020 using additional measures: risk of PPD with the Postpartum Depression Predictors Inventory-

Revised (PDPI-R), anxiety symptoms assessed by the Hospital Anxiety and Depression Scale (HADS), maternal confidence with the Maternal Confidence Questionnaire (MCQ), assessing negative thoughts with the Postnatal Negative Thoughts

Questionnaire (PNTQ) and assessed relationship satisfaction of partners with the Revised Dyadic Adjustment Scale (RDAS).¹²

Table 1. Characteristic of the included studies (n=5)

Authors, year	Milgrom et al. 2016	Pugh et al. 2016	Loughnan, et al. 2019	Jannati et al. 2020	Fonseca et al. 2020
Place	Australia	Canada	Australia	Iran	Portugal
Study design	RCT: 43 iCBT: 21 TAU: 22	RCT: 49 iCBT:25 TAU: 24	RCT: 120 iCBT: 65 TAU: 55	RCT: 75 iCBT: 38 TAU: 37	RCT: 194 iCBT: 98 TAU: 96
Time	12 weeks	10 weeks	4 weeks	8 weeks	8 weeks
Diagnose 1. DSM 2. Scale	1. SCID-IV (DSM-IV) moderate and severe PPD 2. EPDS \geq 11	2. EPDS \geq 10 minor, moderate and severe PPD	2. GAD-7, EPDS and PHQ-9	2. EPDS	2. PDPI-R, EPDS, HADS, MCQ, PNTQ, RDAS
No. of sessions delivered	6 sessions of iCBT The MumMoodBooster program consists of online sessions and telephone counseling	7 sessions of CBT conducted online (TAICBT) for PPD	3 sessions of MUMentum postnatal program	8 sessions of Happy Mom application	5 sessions of Be a Mom combines CBT program
Recruiting patients	Online social media and Health centers	Online, posters, media	Advertisement posted on online forums, social media, and flyers	Online, text message invitations, flyers	in-person and online
Program content	Managing attitude, increasing fun experiences, managing depressive feelings, increasing optimistic thoughts, and preparing for the future were among the topics covered; there was also a peer-based online forum and a relationship support website.	psychoeducation and behavioral exercises	Understanding anxiety and postpartum depression, and coping with unhelpful feelings, Recognizing and addressing unhelpful feelings, and coping with confusion, Coping with unhelpful behavior, and building self-confidence	Introduction program and goal setting, set goals during the treatment, Emotional recognition, Noticing thoughts, Thought challenging, problem-solving	Content included psychoeducation about cognitive-emotional relationships, reduce risk factors for PPD, interactive exercises, and mental health professional
Size-effect	Intervention effect (d = 0.83, 95% CI 0.20-1.45)	The difference between the two conditions is shown by the Chi-square. $X^2(1) = 2.93, p = 0.08, \text{cramer } V = 0.026$	Interaction for depression according to the PHQ-9 ($F_2, 93.80=9.06, p < .001$) and EPDS ($F_2, 87.50=10.25, p < 0.001$), and anxiety according to the GAD-7 ($F_2, 94.04=9.13, p < 0.001$)	EPDS score after the intervention was 8.18 and in the control group was 15.05 ($p < 0.001$)	At group baseline ($r = .781, p0.001$) and post-intervention ($r = .704, p0.001$), there was a significant relationship between anxiety and depressive symptoms.

RCT (Randomized Controlled Trial); iCBT (Internet Cognitive Behavior Therapy); TAU (Treatment As Usual); EPDS (Edinburgh Postnatal Depression Scale); PHQ-9 (Patient Health Questionnaire-9); GAD-7 (Generalized Anxiety Disorder 7- item scale), SCID-IV (Structured Clinical Interview for DSM Disorders); PDPI-R (Postpartum Depression Predictors Inventory-Revised); HADS (Hospital Anxiety and Depression Scale); MCQ (Maternal Confidence Questionnaire); PNTQ (Postnatal Negative Thoughts Questionnaire); RDAS (Revised Dyadic Adjustment Scale)

Therapeutic intervention and control groups

To assist patients in understanding course-related materials, all iCBTs delivered with online access are internet-based (app or web-based program). Three studies used application programs are MumMoodBooster,³ MUMentum postnatal program,¹³ and Happy Mom application.¹⁰ Pugh et al, 2016 used Therapist-Assisted Internet-CBT (TA-ICBT),⁵ and Be a Mom combines CBT program is used Fonseca et al. 2020.¹² The number of sessions ranged from three to eight, and the treatment classes were all the same. Forming moods, controlling suicidal feelings, increasing optimistic thinking, and enjoyable experiences, and planning for the future are among the features of internet-based applications or programs; peer-based online forums and partner support services are also available,³ setting goals and problem-solving.¹⁰ The content of the modules in Be a Mom combine CBT is adjusted to the needs of the customer (for example, content promoting couple happiness and affection is not shown to single mothers).¹²

Treatment was provided to the control group in all trials as usual intervention (TAU). TAU combinations are customized to each prospective participant's preferences and are intended to provide a diverse range of approaches and supports. TAU participants are also given access to general mental health services on the Internet. They'll even get an email with guidance about how to complete the online evaluation.³

Reported results in the studies

Milgrom et al. 2016, the intervention group had better iCBT ratings. The MumMoodBooster intervention's effectiveness in treating PPD was evaluated using DSM-IV diagnostic criteria. Psychologists, including three clinical psychologists, three counseling majors, and one health specialist, are on hand to help. After 12 weeks, the assessment was completed by 22 participants in the control group and 21 participants in the treatment group.³ Results also clinically significant were studied by Pugh et.al. 2016, when compared to participants in the control group (mean reduction of 2.42 points on EPDS; n = 20 were included in the analysis), those in the TA-ICBT group had fewer signs of postpartum depression (mean reduction of 6.24 points on EPDS; n = 21 were included in the analysis). Participants in the intervention group had lower levels of postnatal anxiety, general depression, and maternal disorders, as well as increased clinical and environmental quality of life when opposed to those in the control group.⁵ Happy Mom application by Jannati et al. 2019, before the intervention, there was no statistically meaningful difference in EPDS ratings between the two groups ($p > 0.001$). After the experiment, the mean EPDS score in the intervention group was 8.18, while the control group was 15.05, which was statistically important ($p < 0.001$).¹⁰ In the postnatal MUMentum program, group significance based on interaction time for depression according to EPDS ($F_2, 87.50 = 10.25, p$

<0.001) and PHQ-9 ($F(2, 93.80) = 9.06, p < .001$), anxiety according to GAD-7 ($F(2, 94.04) = 9.13, p < .001$). Significant interactions were also shown for most of the secondary outcomes including maternal attachment, and general psychological stress, as well as the quality of life on physical, psychological, and environmental health. In contrast, no significant group based on parental trust or interaction time was recorded for social relationship QOL ($F(2, 87.12) = 1.21, p = 0.30$).¹³

DISCUSS

The study examined how effective internet CBT was at minimizing PPD. According to the findings of these five studies, internet CBT will lower EPDS scores in all participants in the intervention group (iCBT) as opposed to the control group (TAU). In other words, evidence indicates that postpartum depression is significantly reduced. MumMoodBooster at Milgrom's study,³ a cognitive behavioral therapy (CBT) intervention, was studied for its effect on postpartum maternal depression. The intervention group's Beck Depression Inventory (BDI-II) score was found to be slightly smaller than the control group's. On the SCID-IV diagnostic, 79 percent of participants who underwent Internet CBT counseling were no longer qualifying for depression, compared to just 18 percent of the normal recovery population. As a result, it can be inferred that internet CBT helps mothers in the intervention group feel less depressed than mothers in the control group.¹⁴

There is currently an innovative increase in internet-based interventions. According to a study related to internet-based treatment, they found that patients who can attend treatment responsibly can benefit more from Internet-based treatment.^{15,16} Additionally, one of these interventions is therapist-assisted internet cognitive behavior therapy (TAICBT) to deal with postpartum depression. To the extent of participants' responses, TAICBT intervention program is afforded flexibility, accessibility, convenience, and anonymity as well as privacy thanks to internet-based programs. The program provides participants to choose the correct direction and raises self-awareness and parenting skills. In addition to this, having internet therapists make their treatment more individualized and supportive. For further investigation, an internet-based cognitive therapy method can be used to help women with postpartum depression.⁵

CONCLUSION

The effectiveness and acceptability of internet cognitive-behavioral treatment for postpartum depression were supported by this research. We found high improvement in reducing anxiety and depressive symptom severity through Internet-based treatment, but differences were only moderate between the treatment and control groups. This study is still limited to the use of iCBT with RCTs that need to be followed up, especially for long-term treatment outcomes. More holistic interventions need to be targeted at symptoms that begin in pregnancy, not just generalized anxiety or any comorbid depression. This is an important investigative area for researchers and practitioners looking at the large therapeutic potential of Internet-based treatment in postpartum depression.

Loughnan et al. 2019 reported that after treatment with the Postnatal MUMentum program, more than half of the participants reported being very satisfied with the program and that the quality of the program was rated as very good. The program was also rated as successful in making most of the participants skilled in managing symptoms, and they recommended the program to friends who experienced postpartum anxiety and/or depression. Most of the participants also reported that they preferred online treatment over other types of treatment in receiving help to reduce their symptoms, with about 18% preferring face-to-face treatment over CBT.¹³ Any kind of technology-based intervention (web-based versus telephone-based) resulted in a statistically significant reduction in postpartum depression.¹⁷

The basic intervention for iCBT uses various forms of the technique of CBT which are responsible for the effectiveness of the therapy: (a) Managing attitude, increasing fun experiences, managing depressive feelings, increasing optimistic thoughts, and preparing for the future were among the topics covered; there was also a peer-based online forum and a relationship support website;³ (b) psychoeducation and behavioral exercises, cognitive behavioral competencies relevant to maternal adaptation;⁵ (c) Coping with unhelpful behavior, and building confidence;¹³ (d) problem solving;¹⁰ interactive exercises, and mental health professional synthesis.¹² In general, the behaviors and behaviors used as an intervention in most of the courses or indications.

The study has some limitations. This systematic review used a limited sample size, it's important to use caution when generalizing our findings to the whole maternal population. The study search included only iCBT studies and randomized controlled trials so these studies may have missed some important studies. One of the clinical problems with iCBT is that there is no nonverbal communication which makes it difficult to build a strong therapeutic relationship. Although iCBT is not capable of eliminating face-to-face therapy, it can be effective in decreasing prejudice and limiting access to mental health facilities. Furthermore, the conclusion of effect stability is difficult to conclude because of the heterogeneous effects of intervention with various types of online programs. Furthermore, further research needs to investigate the effectiveness of iCBT without the assistance of supervisors and/or active assistance from experts in reducing postpartum depression.

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