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Postpartum Depression: Overcoming Mental Health Challenges during Parenthood

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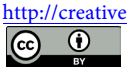

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Abstract

Postpartum depression affects parents across all social, economic, and racial groups. While there are many factors that may contribute to depressive symptoms in the postpartum period, under-resourced populations and ethnic minorities are documented to experience higher rates. Traditional psychotherapeutic methods have shown success in mitigating depressive symptoms; however, these treatments are not always accessible and/or utilized, particularly in populations with the highest need. Mind-body interventions have become increasingly popular in addressing perinatal mental health, and new and innovative approaches are currently being evaluated to determine their efficacy with respect to treating postpartum depression. This scoping review highlights published clinical trials, interventions, meta-analyses, and reviews conducted in the last 20 years and examines how each method applies to meet the needs of postpartum parents, and particularly under-resourced populations.

Keywords

Prenatal, Perinatal, Postpartum, Depression

1. Introduction

The postpartum period (up to 12 months post-birth) can be a challenging and often stressful time for parents. Stressors for the mother or birthing parent often include hormones and bodily changes [1], physical and emotional strain caused by sleep disruption [2], change in identity [3], and additional stressors resulting from shifts in family dynamics [4] and social isolation related to new parenthood [5] [6] [7]. Stressors that can lead to postpartum depression may also be experienced by fathers or non-birthing parents, with specific risk factors including relationship dissatisfaction, financial instability, lack of social support and low

self-efficacy [8]. Additional risk factors that apply to all parents include a history of mental illness, birth trauma, adverse childhood experiences and interpersonal abuse [9] [10] [11].

These situational stressors may increase the risk for postpartum mood disorders. For example, in the United States, postpartum depression affects 14% - 38% of mothers [12] [13] [14] and 8% - 10% of fathers [15] [16] [17] [18] [19]. Additionally, anxiety in the postpartum period affects up to 20% of mothers [20] and 10% of fathers [21].

Untreated postpartum depression is associated with numerous deleterious outcomes for both parents and children. Adverse outcomes for parents may include long-term depression and/or anxiety [22], compromised interpersonal relationships and heightened marital conflict [9], and increased engagement in maladaptive coping and risky behaviors such as substance misuse [9]. Moreover, often mothers affected by postpartum depression are less likely to breastfeed [23], which has been shown to be a protective factor against depression [24]. Adverse outcomes for children may include delayed infant cognition, delayed motor skills, and compromised emotional development as a result of interruption of bond [9]. Longitudinal studies also show an increased risk of depression and anxiety in teenage years [25]. The financial cost of untreated perinatal depression is over 14 billion USD yearly [26] due to associated missed work/lack of productivity and treatment for perinatal depression itself [27] as well as the resulting comorbidities such as cardiovascular disease and hypertension [28] [29].

Parents of low socioeconomic status [30] [31] and racial/ethnic minorities [32] [33] experience higher rates of postpartum depression and other perinatal mental illness and resulting comorbidities. Under-resourced women and women of color experience disproportionately high rates of stressful life experiences that may increase the likelihood of postpartum depression compared to middle to upper class white women in the United States [34] [35]. Additionally, rural populations have disproportionate rates of perinatal mental illness [36] as a result of insufficient access to mental health care services [37] [38] [39]. Recent research shows a 21% increase of postpartum depression in rural versus urban areas of the United States [40]. These disadvantaged populations may face increased mental health stigma within their respective communities, which further hinders utilization of care [41] [42]. The heightened need for treatment for postpartum depression as well as the lower rates of access and utilization of treatment in under-resourced, racial and ethnic minority, and rural populations calls for a more comprehensive approach to treatment options, including traditional, complementary and alternative methods [34]-[39] [41] [42].

2. Treatment Methods

2.1. Traditional Therapeutic Pharmacologic and Counseling

Traditional effective treatments of postpartum depression include pharmacologic medications, interpersonal therapy, and cognitive behavioral therapy [43] [44]

[45] [46] [47]. Commonly prescribed anti-depressant medications include Selective Serotonin Reuptake Inhibitors (SSRIs), which have shown to significantly reduce postpartum depression symptoms [43]. Although many SSRIs have been deemed safe by both the American Academy of Pediatrics (AAP) and the American College of Obstetricians and Gynecologists (ACOG) [48] during pregnancy and the postpartum period, many parents are hesitant to adhere to pharmacologic therapies due to potential adverse impacts on breastfeeding and implications on child health [49]. Though there is little to no research exploring the effects of pharmacological treatment for fathers who experience postpartum depression, recommended treatments for depression in the general population are the same for all adults, and in the case of general depressive disorders produce similar effects [50] [51].

Often, traditional methods include a combination of both anti-depressant medications and counseling therapies [43]. Traditional counseling methods such as interpersonal therapy and cognitive behavioral therapy are alternative or complimentary options to medication that may help to mitigate symptoms of postpartum depression [44] [45] for parents and can also produce additional positive effects on marital satisfaction, interpersonal communication and perceived social support [52]. Interpersonal therapy focuses on interpersonal relationships and communications using support to mitigate mood disorders [45]. Cognitive behavioral therapy is a form of therapy that targets emotions and redirects maladaptive behaviors [46] and can be delivered one-on-one or in group settings [45] [47]. A recent systematic review included studies using both cognitive behavioral therapy and interpersonal therapy in the postpartum period and found reduced depressive symptoms following the interventions as well as sustained improvements six months later [23].

Unfortunately, these traditional methods of treatment are not accessible to many under-resourced populations [53]. New parents without quality healthcare may lack access to mental health service referrals and treatment options including prescription medications [54]. In addition, there is a shortage of mental health providers to deliver traditional therapies particularly in rural and underserved areas [39]. Studies also suggest that a lack of health education among under-resourced communities contributes to reduced awareness of mental illness symptoms, which hinders treatment-seeking and utilization of the services that are available [54] [55]. This may be true for fathers in all demographics, as there is less education and awareness around postpartum depression experienced by fathers and other non-birthing partners [56]. Often, language and other cultural factors may create a disconnect with providers, preventing effective referral, treatment, and follow-up [57] [58]. (Adversely, cultural and religious factors may act as protective factors against PPD [59] [60], and may be applicable in psychotherapeutic treatments [61] [62].) Traditional treatments usually require long-term adherence to medications and/or multiple counseling sessions, which may be challenging to adhere to for those living with depression [63]. Additionally, barriers such as transportation, childcare, and time away from work may be

elevated in under-resourced populations and may impact retention in multi-session therapies [64] [65]. Inconsistencies in medication adherence and/or therapy attendance may result in higher depression relapse rates [66].

2.2. Mind-Body Interventions

Mind-Body Interventions are the processes of using mental capacity to address and affect physical health [67] and have demonstrated efficaciousness in the prevention and treatment of postpartum depression [49] [68]. Mind-body interventions and can be an alternative or complimentary option to traditional clinical treatment methods. Mind-body interventions are most often mindfulness-based and include elements of *meditation*, which is the practice of calming the mind and "detached observation" [69]; *grounding*, which is the process of being in the "here and now" [70]; and *self-compassion*, which is the act of treating oneself with kindness and forgiveness [71] [72], and which has recently shown to have high levels of efficacy for new parents, both birthing and non-birthing alike [73] [74]. Mind-body interventions are often cost-effective and scalable interventions that can be delivered in diverse settings including non-clinical, community based settings [75]. Mind-body interventions can positively influence both physical and mental health, therefore may reduce associated stigma and fear surrounding postpartum depression and in turn, encourage participation [76], particularly in under-resourced populations [75].

Mindfulness-based stress reduction [77] is an intervention meant to use mindfulness techniques to reduce stress and therefore mitigate depressive symptoms. Mindfulness-based cognitive therapy is the integration of mindfulness-based stress reduction into a cognitive behavioral therapy format [78] [79]. Mindfulness-based cognitive therapy has been employed for relapse prevention related to recurrent depression [80] and numerous other psychiatric conditions such as anxiety [81] and comorbid substance use [82]. Research suggests that this methodology can effectively mitigate poor postpartum mental health outcomes [83]. Mindfulness-based cognitive therapy reduces depressive symptoms by offering strategies to alleviate stress and anxiety [80] [84] [85] [86] [87] and is currently recommended in several national clinical guidelines as a non-pharmacological treatment for major depressive disorder [88]. Mindfulness-based cognitive therapy can be facilitated by licensed clinicians, researchers, and community members with limited training, making it a more approachable option than clinical treatment [78]. This approach often includes a group-based skills training program that is typically delivered in in-person or remote sessions and includes weekly homework consisting of formal and informal mindfulness practices [89].

Many mind-body interventions teach mindfulness behaviors that can lead to sustainable habits during the postpartum period [90], making them an attractive therapeutic option. Mind-body interventions may be a successful approach to treating postpartum depression in fathers, as they tend to emphasize strengths and boost self-compassion and self-efficacy. Fathers have shown to respond well to this type of education-based intervention rather than a clinical treatment

based intervention [91].

Unfortunately, most of the published research shows the success of mind-body interventions for postpartum depression in more affluent and homogenous populations, and less evidence exists regarding racial and ethnic minorities and under-resourced populations in the United States [92] [93] [94].

While some research shows that mind-body interventions have been employed to activate mindfully responsive parenting with new parents experiencing postpartum depression [95], the majority of perinatal mind-body interventions are conducted during pregnancy [96] [97] [98]. While these have shown to be effective early intervention and prevention strategies, there is a need for an increase in accessible mind-body interventions in the postpartum period [99].

While it has been researched in other populations [100], the non-clinical nature of mind-body interventions creates a lack of research regarding dose-response and the required frequency to produce results in the postpartum period.

Another example of an evidence-based approach to mitigating postpartum mood disorders is physical activity. Regular physical activity promotes both mental and physical health outcomes during pregnancy and the postpartum period and provides similar outcomes as clinical treatments and mind-body interventions [101] [102]. Physical activity can improve pregnancy and birth outcomes including lower risk of excessive gestational weight gain and gestational diabetes, pre-eclampsia, and caesarean birth, and is effective in the prevention of postpartum depression [103] [104]. Physical activity in the postpartum period can increase weight loss, decrease risk of bone loss from breastfeeding, and can treat anxiety and depression [105]. Exercise has been shown to be as efficacious as selective serotonin reuptake inhibitors in clinical trials targeting depression for the general populations as well as during the postpartum period [106]. Physical activity may be combined with meditation and movement exercises such as yoga [107].

Unfortunately, the majority of pregnant and birthing people are not meeting the recommended guidelines of 150 minutes of physical activity per week [108] [109]. This may be attributed to lack of accurate information regarding the safety and effectiveness of exercise [110] as well as balancing the time and energy demands of new parenthood [111] [112]. Healthcare providers can play an instrumental role in educating women on how to exercise safely and effectively and increasing the likelihood they will adhere to the exercise recommendations during the perinatal period [113]. Racial and ethnic minorities, those living in rural areas, and under-resourced general populations have lower rates of physical activity and higher rates of obesity [114], which is also evident for those in the postpartum period [112] [115]. Additionally, activities such as yoga and other group fitness may be cost restrictive and are attended by a majority of white and middle to upper class populations [116].

Similarly to clinical treatment, adherence to regular physical activity is imperative in order to produce desirable outcomes. A 2017 review of 6 randomized

control trials showed significant decreases of depressive symptomology for postpartum participants who engaged in exercise 3 to 5 times per week [117].

A 2020 study [118] showed that although new parenthood may inspire fathers to engage in a healthier lifestyle, the demands of financially supporting and helping to care for an infant may restrict the time allotted for physical activity.

2.3. Emerging and Novel Approaches

Emerging alternative approaches, though understudied, also show promise in the prevention and treatment of postpartum depression [119]. These emerging methods are both physical and psychological in nature and are largely non-pharmaceutical.

Acupuncture, or the use of thin needles through the skin at strategic points in the body, has been used successfully to mitigate depressive symptoms [120] [121], and evidence related to the effectiveness of acupuncture on treating postpartum depression has been equivocal, to date. A current review suggests the effectiveness of acupuncture in treating postpartum depression [122] while another recent review measuring the effectiveness of acupuncture on postpartum depression found no difference and highlighted the need for more rigorous research [123]. A 2019 review of twelve randomized controlled trials found that similarly to the previously mentioned studies, those who received acupuncture to treat postpartum depression had comparable outcomes to those using traditional psychotherapy [124]. Acupuncture is often accompanied by Chinese herbal medicine, which according to 2018 systematic review [125] may produce similar results as traditional antidepressant medication. Although the use of acupuncture has increased in the United States in recent years [126], it continues to be considered complimentary medicine and is often not covered by most insurance [127], rendering it an unlikely option for those at financial disadvantage. Additionally, and perhaps due to the designation of "complimentary" in the US, most research regarding acupuncture's efficacy in treating postpartum depression has been conducted in China.

Light therapy is another complimentary strategy that has recently been evaluated to treat depression. Light therapies, either bright light therapy or dim red-light therapy, have been successfully used in patients suffering from non-seasonal depression [128]. To our knowledge, no systematic or meta-analyses exist exploring the use of light therapies on individuals experiencing postpartum depression. However, a handful of promising studies have shown that the use of light therapy has reduced both self-report and clinically tested levels of postpartum depression [119] [129] [130] [131]. Unfortunately, due to the lack of published research, it is unknown if this particular therapy has differing affects for fathers and under-resourced populations.

Behavioral activation is the use of positive reinforcement and the connection to pleasurable activities to mitigate negative thoughts or behaviors that may contribute to depressive symptoms [132], and is used as a stand-alone therapy or

can be integrated into CBT [133]. This method has little published research when applied to pregnant individuals, and to our knowledge no published research when applied postpartum, though benefits include the ability to deliver via telehealth and remote delivery [134], and can be conducted outside a clinical setting [135], which may be more accessible to new parents.

2.4. Alternative Methods of Treatment Delivery

Telehealth has increased connectedness for new parents by providing ways to seek treatment in a remote format. In the wake of the COVID-19 pandemic, telehealth has become a necessary method of healthcare delivery. Telehealth has become a more viable option for the general population, and more specifically for hard to reach populations including new parents [136], under-resourced populations [137], and those facing mental health stigma. Social support has shown to have a significant impact on postpartum mental wellbeing, and isolation as a result of social distancing is a risk factor for developing postpartum depression [138]. A recent meta-analysis shows increased social support and lower depressive symptoms for parents who participate in telehealth prenatal care and remote models of group education [139]. Telehealth has also shown to be an effective treatment option for postpartum depression [140]. In addition, interventions that employ text messaging as a form of support for parents who may not be as able to access in-person forms of intervention and/or pharmacological treatments have shown to be an effective alternative [141] [142]. A recently developed platform uses passive sensing data from smartphone GPS and activity tracking to identify behavioral patterns in low-resourced populations of postpartum mothers, furthermore connecting them to counselors through the app [143]. Another recently developed program uses screening questions, motivational interviewing techniques, and patient feedback to aid providers in referring to mental health specialists and proving educational materials to patients who may be at high risk for postpartum depression [144].

3. Conclusions

The prevalence of postpartum depression as well as its potential consequences call for a multitude of intervention strategies to meet the needs of all parents who are at risk for postpartum depression. Traditional methods have historically been effective in both the prevention and treatment of postpartum depression and should continue to be referred to high-risk new parents whenever possible and/or appropriate; however, because stigma and lack of access may prevent many new parents from accessing traditional methods of treatment, especially fathers, under-resourced communities and racial and ethnic minorities, there is a need for a variation of treatment approaches. Mind-body interventions and emerging non-clinical methods may be community based and patient centered, which can provide cultural sensitivity and increase adherence based on patient preferences. Emerging treatments show promise to be effective when applied

postpartum. And telehealth and remote delivery of all types of postpartum depression treatment have the potential to reach those who would not otherwise have access. Additionally, these different types of treatment may be complimentary to each other and do not need mutual exclusivity to achieve intended outcomes.

Finally, underutilization is often the result of underdiagnosis; therefore, routine and systematic screening for both parents in the prenatal and postpartum periods is imperative to implement early intervention and treatment of postpartum depression.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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