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Review article

Computer- or web-based interventions for perinatal mental health: A systematic review

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ABSTRACT

Background: Treating prenatal mental health issues is of great importance, but access to treatment is often poor. One way of accessing treatment is through computer- or web-based interventions. Reviews have shown that these interventions can be effective for a variety of mental health disorder across different populations. However, their effectiveness for women in the perinatal period has not been reviewed. This review therefore aimed to provide a first overview of computer- or web-based interventions for women's perinatal mental health issues by systematically identifying and reviewing their characteristics and efficacy.

Methods: Twelve electronic databases were searched for published and unpublished literature using keywords, supplemented by hand searches. Data were extracted for characteristics of the intervention and the study, study findings and the methodological quality was assessed.

Results: The majority of the eleven eligible studies were randomized controlled trials. Interventions were targeted at depression, stress, and complicated grief during the antenatal or postpartum period or the time after pregnancy loss. Findings suggest that computer- or web-based interventions targeted at improving mental health, especially depression and complicated grief, may be effective.

Limitations: Findings and their generalizability is limited by the heterogeneity of reviewed interventions and study designs, as well as methodological limitations.

Conclusions: This systematic review constitutes the first synthesis of research on computer- or web-based interventions for perinatal mental health issues and provides preliminary support that this could be a promising form of treatment during this period. However, there are significant gaps in the current evidence-base so further research is needed.

Contents

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1. Introduction

The perinatal period from pregnancy to one year after birth is a time of social, psychological, and biological changes for women (Barnes, 2014; Gavin et al., 2005; Redshaw and Martin, 2011). Positive and negative emotions are common and likely to vary in intensity and over time (Najman et al., 2010). During the perinatal period, some women develop mental health conditions of differing levels of severity, ranging from mild to moderate depression and anxiety disorders to more severe conditions such as psychosis, bipolar disorder, and post-traumatic stress disorder (PTSD) (Howard et al., 2014; Jones et al., 2014). Reported prevalence rates suggest that 10–15% of women suffer from depression during the perinatal period (Bennett et al., 2004; Gavin et al., 2005), 5–12% from anxiety disorders (Reck et al., 2008; Ross and McLean, 2006; Yelland et al., 2010), 3% from PTSD after childbirth (Grekin and O'Hara, 2014), and about 1–2 per 1000 suffer from psychosis (Munk-Olsen et al., 2006; Vesga-López et al., 2008).

The availability of efficient and timely interventions is important (Misri and Kendrick, 2007), especially when considering the adverse effects on the somatic and psychological health of mother, infant and family (Glasheen et al., 2010; Grigoriadis et al., 2013; Oates, 2003; Stein et al., 2014), as well as the potential cost to society (Bauer et al., 2014). Despite treatments being available which are considered effective in preventing and improving these adverse consequences (Dennis, 2005; Dennis and Hodnett, 2007; Leis et al., 2009; Poobalan et al., 2007; Sockol et al., 2011), mental health conditions in the perinatal period often go unrecognized or untreated (Bauer et al., 2014; Goodman and Tyer-Viola, 2010; Hendrick, 2003). This is due to factors such as low screening and diagnosis rates, as well as the reluctance of women with emotional difficulties during this period to seek help and disclose their difficulties (Gjerdingen and Yawn, 2007; O'Mahen and Flynn, 2008; Vesga-López et al., 2008; Woolhouse et al., 2009). Instead of using formal treatment, women have reported seeking help more frequently from informal sources, such as family and printed material (O'Mahen and Flynn, 2008). "Being too busy to get around to seeking help" and "feeling too embarrassed or having no-one they felt comfortable talking to" (Woolhouse et al., 2009, p. 80) have been identified as two reasons for not seeking help. Similarly, the "lack of time", "stigma", and "childcare issues" were among the most reported treatment barriers by women with postpartum depression (Goodman, 2009). In addition, the inability to disclose feelings has been identified as a major barrier to seeking help for women with postpartum depression (Dennis and Chung-Lee, 2006). Providing convenient and potentially anonymous access to effective treatment is therefore critical.

One increasingly popular approach of enhancing access to treatment is through the use of computer- or web-based intervention programs. These interventions are designed in a way that allows people to work independently through therapy material with or without minimal assistance from a therapist or other mental health professional. Computer- or web-based interventions can be delivered offline or online via a computer, tablet, or smart phone. In this format, treatment can be completed at anytime and anywhere and can be accessed by large numbers of people across wide geographical regions in a cost-effective manner (Griffiths and Christensen, 2007; Hayward et al., 2007; Kaltenthaler et al., 2006, 2002; Muñoz, 2010). The anonymity offered by computer- and web-based interventions may attract people who experience difficulties with disclosing mental health disorders (Corrigan, 2004; Gega et al., 2004; Rüsch et al., 2005).

Computer or web-based interventions may therefore be particularly useful during the perinatal period. The anticipated advantages are that women are not required to attend time consuming and potentially inconvenient face-to-face sessions. It also allows women to do as little or as much as they want per day or session, which might make it easier to fit the treatment within the variable and demanding schedule of coping with a new baby. Moreover, web-based interventions offer anonymity which might help women overcome the stigma of accessing help. These aspects of the perinatal period therefore suggest that web-based interventions may be an appropriate alternative or supplement to regular treatment.

The efficacy of computer- and web-based interventions for various mental health conditions in other populations is well established. Meta-analyses found that computer- and web-based interventions can be as effective as face-to-face treatments and superior to control groups with substantial effect sizes for a variety of mental health disorders, including major depression, social phobia, panic disorder, generalized anxiety disorder and stress (Andrews et al., 2010; Barak et al., 2008). Results from systematic reviews also suggest that computer- and web-based interventions are acceptable and effective across different populations including children and adolescents (Calear and Christensen, 2010; Richardson et al., 2010; Siemer et al., 2011), students (Farrer et al., 2013), and older adults (Preschl et al., 2011).

Despite this substantial evidence showing the benefits of computer- and web-based interventions for a variety of mental health disorders in other populations, the evidence of computer- or web-based interventions for women's mental health during the perinatal period has not yet been established. A few programs have been developed for the use during the perinatal period, but the results of these have not been systematically reviewed. This review therefore aimed to provide a first overview of computer- and web-based interventions targeted at perinatal mental health issues by systematically identifying and synthesizing the research findings, including the interventions' effectiveness in preventing or reducing mental health issues in this population.