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The Postpartum Partner Support Scale: Development, psychometric assessment, and predictive validity in a Canadian prospective cohort

Cindy-Lee Dennis, PhD Dr.[a,b,c,*], Hilary K. Brown, PhD Dr.[b,d,e,f], Sarah Brennenstuhl, PhD Dr.[a]

[a] Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, Toronto, Ontario, Canada
[b] Department of Psychiatry, University of Toronto, Toronto, Ontario, Canada
[c] Li Ka Shing Knowledge Institute, St. Michael's Hospital, Toronto, Ontario, Canada
[d] Department of Anthropology (Health Studies Program), University of Toronto Scarborough, Toronto, Ontario, Canada
[e] Dalla Lana School of Public Health, University of Toronto, Toronto, Ontario, Canada
[f] Women's College Research Institute, Women's College Hospital, Toronto, Ontario, Canada

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ABSTRACT

Background: postpartum depression is a significant public health issue with well-documented negative consequences. A strong risk factor that has been consistently identified in international samples is a poor partner relationship. However, no instrument exists to measure postpartum-specific partner support.
Objectives: the objective of this methodological study was to develop and psychometrically test an instrument to assess the perception of postpartum partner support to guide interventions.
Design: using a theoretical model of social relationships and the functional elements of social support, the Postpartum Partner Support Scale was developed and content validity was judged by experts. Following a pilot test, the Postpartum Partner Support Scale was psychometrically assessed.
Settings: the study was conducted in a health region near Vancouver, British Columbia.
Participants: 396 women at 1, 4, and 8 weeks postpartum.
Methods: the psychometric assessment included analysis of internal consistency, exploratory factor analysis, composite reliability, and concurrent and predictive validity.
Findings: the Cronbach's alpha for the Postpartum Partner Support Scale was 0.96, and exploratory factor analysis revealed a unidimensional solution. The Postpartum Partner Support Scale was positively correlated with general partner support and global social support and negatively correlated with perceived stress and child care stress. It also predicted maternal depressive and anxiety symptoms at 8 weeks postpartum among those without depression or anxiety at 1 or 4 weeks postpartum, respectively.
Conclusions: following further psychometric testing, the Postpartum Partner Support Scale may be used to (1) identify women with inadequate partner support who are at risk for poor mental health, (2) individualise postnatal care, and (3) evaluate preventive interventions.

Contributions of the paper.
What is known about this topic:

- Predictive studies consistently demonstrate a significant association between a woman's relationship with her partner and postpartum depression.
- Several tools have been developed to evaluate intimate partner support, including the Couple Satisfaction Index and the Dyadic Adjustment Scale; none of these scales is specific to the postpartum period.

What this study adds:

- We developed the Postpartum Partner Support Scale; this scale has high internal consistency and a unidimensional solution.
- The scale is correlated with theoretically-related constructs; it is positively correlated with general partner support and global social support and negatively correlated with perceived stress and child care stress during the early postpartum period.
- Postpartum Partner Support Scale scores at 4 weeks postpartum predicted depression and anxiety symptomatology at 8 weeks postpartum among those without depression or anxiety at 1 or 4 weeks postpartum, respectively.

* Corresponding author at: Lawrence S. Bloomberg Faculty of Nursing, University of Toronto, 155 College Street, Toronto, Ontario, Canada M5T 1P8.
E-mail address: cindylee.dennis@utoronto.ca (C.-L. Dennis).

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Introduction

Perinatal mental illness is a leading public health issue with significant economic cost to society if left untreated (Howard et al., 2014). Due to its negative effects on maternal and child outcomes (Stein et al., 2014), there is ever-growing research focusing on prevention. A Cochrane systematic review suggests psychosocial and psychological interventions decrease the risk of postpartum depression by 22%, and it underscores the importance of the social environment in which women live (Dennis and Dowswell, 2013). Despite methodological limitations such as diverse samples, measures, and assessment periods, meta-analyses of predictive studies consistently demonstrate a significant association between a woman's relationship with her partner and postpartum depression (Fisher et al., 2012; Martini et al., 2015). A greater understanding of the influence of the partner in the postpartum period may assist health professionals and researchers in developing effective preventive interventions for postpartum depression that target the modifiable partner relationship.

Numerous studies have shown an association between quality and/or satisfaction with the marital or equivalent relationship and postpartum depression (Spangenberg and Pieters 1991; Jadresic et al., 1993; McGill et al., 1995; Viinamaki et al., 1997; Matthey et al., 2000; Danaci et al., 2002; Patel et al., 2002; Lee et al., 2004; Escriba-Aguir and Artzacoz 2011; Fisher et al., 2012; Martini et al., 2015). For example, in a prospective cohort of 769 women recruited from a prenatal program in Spain, low marital satisfaction was associated with postpartum depression (Escriba Aguir and Artzacoz, 2011). Similarly, in prospective German study of 306 women recruited antenatally from gynaecologic clinics, poor partner satisfaction was associated with depression following childbirth (Martini et al., 2015). Similar results have been reported in diverse samples in New Zealand (McGill et al., 1995), Turkey (Danaci et al., 2002), India (Patel et al., 2002), and elsewhere. Poor relationship with a partner has also been associated with depression continuity and severity (McGill et al., 1995; Fisher et al., 2002).

While important, fewer studies have demonstrated an association between partner conflict and postpartum depression; these studies suggest that partner-associated stress and relationship difficulties increase postpartum depression risk (Glasser et al., 2000; Johnstone et al., 2001; Gross et al., 2002; Figueiredo et al., 2008; Ramchandani et al., 2009; Giardinelli et al., 2012). In a population-based cohort of 14,609 recent mothers from the Centers for Disease Control and Prevention's Pregnancy Risk Assessment Monitoring System, women who reported that they experienced partner-associated stress were two times more likely to be very depressed in the months after childbirth than those with no stress from their partner (Gross et al., 2002). Similarly, in a large prospective South African cohort of 1035 women, 170 women reported postpartum depression, for which one of the strongest predictors was relationship difficulties (Ramchandani et al., 2009). Similar results have been observed in Australia (Johnstone et al., 2001), Europe (Figueiredo et al., 2008; Giardinelli et al., 2012), and Israel (Glasser et al., 2000).

While there is less information on the specific domains of support women need postnatally from their partners, emotional and instrumental support frequently have a protective effect against postpartum depression (Small et al., 1994; Stuchbery et al., 1998; Takeda et al., 1998; Cooper et al., 1999; Ramchandani et al., 2009; Séjourné et al., 2012; Kara et al., 2013). For example, in the large South African cohort, lack of emotional support from the partner was significantly associated with postpartum depression (Ramchandani et al., 2009). In 119 postpartum couples in France, partner practical support was a significant protective factor for postpartum depression (Séjourné et al., 2012). Similar findings have also been reported in the United Kingdom (Stuchbery et al., 1998), Australia (Small et al., 1994), Turkey (Kara et al., 2013), and elsewhere.

Overall, research suggests that postpartum depression may be related to the quality of the woman's relationship with her partner in three ways. First, individuals seek specific social provisions in their relationships with others to feel adequately supported. According to Weiss' (Weiss, 1974) theoretical model of social relationships, these social provisions are: guidance (information or advice), reassurance of worth (others' acknowledgement of one's abilities, skills, and value), social integration (the perception of shared interests, concerns, and connections with others), reliable alliance (assurance that others can be relied upon for help), attachment (emotional closeness that results in a sense of security), and opportunity for nurturance (the feeling of being relied upon). Second, conflict, including arguments as well as expression of negative feelings and attitudes towards a partner, harms the relationship and is the most critical proximal factor impacting relationship satisfaction (Pierce et al., 1991). Third, individuals require specific functional elements of social support which, according to Will and Shinar (Will and Shinar, 2000), can be conceptualised as emotional (affirmation of cognitions, emotions, and behaviours), informational (guidance, suggestions, instruction, and feedback), or instrumental (practical assistance). However, not all elements of social support are positive (Bolger et al., 1989).

Potentially modifiable components of the partner relationship, which may be targets for interventions to prevent postpartum depression, include communication, emotional closeness, conflict management, and division of labour (Pilkington et al., 2015). Several scales have been developed to measure relationship quality (e.g., the Couple Satisfaction Index (Funk and Rogge, 2007) and the Dyadic Adjustment Scale (Spanier, 1976)). Pilkington et al. (2015) described eleven studies of postpartum mood disorder preventive interventions targeting the intimate partner relationship that evaluated partner relationship quality. Only three of these studies used these validated scales (Midmer et al., 1995; Buist et al., 1999; Gambrel and Piercy, 2015). These scales do not focus on the postpartum period when women are often isolated from their support networks and communities and therefore rely more heavily on their partners for support (Rowe and Fisher, 2010). A validated scale, specific to the postpartum period, is needed to assess the partner relationship to guide interventions.

Aims of the study

The purpose of this methodological study was to describe the development and psychometric assessment of an instrument to measure the perception of partner support in the postpartum period.

Material and methods

Study design

The current study is a secondary analysis of data from a population-based longitudinal study conducted in a health region near Vancouver, Canada, from April 2001 to January 2002 (Dennis et al., 2004). Previous papers from this cohort have reported on risk factors for and outcomes of perinatal depression and anxiety ((Dennis, 2004b; Dennis et al., 2004; Dennis and Ross, 2005; Dennis and Ross, 2006b; Dennis and Ross, 2006c; Dennis and Letourneau, 2007; Dennis and McQueen, 2007; Dennis and Vigod, 2013; Falah-Hassani et al., 2016; Dennis et al., 2017)); predictors of breast feeding self-efficacy (Dennis, 2006); and psychometric properties of several screening tools (Dennis, 2004a; Dennis and Boyce, 2004; Dennis and Ross, 2006a; Dennis et al., 2013). Participating family doctors, obstetricians, and midwives provided study packages antenatally to women > 32 weeks' gestation or postnatally during the standard 48-hour post-hospital discharge call delivered to new mothers. All participants received mailed questionnaires at 1, 4, and 8 weeks postpartum. Those who did not return their questionnaires within 2 weeks of mailing received a