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Investigation of the relationship of perceived social support and spiritual well-being with postpartum depression

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Abstract:

BACKGROUND: Postpartum depression is a significant common health problem that has negative effects on mental and physical health of mothers and their infants. The main purpose of this study was to investigate the relationship between spiritual well-being (SWB) and perceived social support with postpartum depression in new mothers.

MATERIALS AND METHODS: Using a descriptive survey design, 200 mothers in the 4th–8th weeks after delivery, who referred to selected therapeutic centers in Qom Province, were selected by a convenience sampling method. They were asked to answer the question of the Edinburgh Postnatal Depression Scale, Multidimensional Scale of Perceived Social Support, SWB Scale, and Farhangestan Spiritual Health Questionnaire. Data were analyzed using Pearson correlation and Chi-square.

RESULTS: The prevalence of postpartum depression in this group was 22%. Pearson correlation test showed that there was a negative correlation between high level of perceived social support and SWB with postpartum depression.

CONCLUSION: The findings of this study suggest that perceived social support and SWB have an important role in low depressive symptom in mothers during postpartum. This result can help health-care professionals to pay much attention to social support and SWB as a protective factor against postpartum depression in postpartum or pregnancy care programs.

Keywords:

Perceived social support, postpartum depression, prevalence, spiritual well-being

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Introduction

Postpartum depression disorder (PPD) is recognized as one of the most common psychiatric conditions in the perinatal period.^[1,2] The 2013 Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition stipulates that PPD is a mood disturbance, which occurs in pregnancy or within 4 weeks of childbirth.^[3] Results from many studies have shown that PPD is a relatively common disorder among women.^[4] Conducting a systematic review and meta-analysis study, Hahn-Holbrook *et al.* reported the global prevalence of 17.7%

for 291 studies.^[5] In another systematic review, the incidence of PPD was reported to be 12% in healthy mothers.^[6] The etiology of PPD remains not to be fully elucidated. Factors affecting postpartum depression are included: genetic factors, hormonal fluctuations,^[7,8] biological factors,^[9] previous psychopathology,^[10-12] psychological-social culture factors, prenatal depression, suspicion of fetal distress,^[13] stressful life events,^[12,14] low social support.^[14,15]

There is a large body of evidence documenting the impact of PPD on well-being of mothers and infants. One study showed that depressed mothers, compared to nondepressed mothers, had

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a more negative perception of their infants.^[16] Further observational research and studies found that detached and neglectful mother–child relationships,^[17] lower maternal self-confidence,^[18,19] lower quality of life,^[20] reduced interpersonal functioning, and increased rates of marital discord^[21] are some negative effects of PPD.

Across studies, researchers have suggested that there was a significant relationship between social support (perceived or received) and PPD.^[15,22,23] Perceived social support (subjective forms of social support) is generally associated with positive health outcome and psychological well-being.^[24,25] Sorias defined perceived social support as one's overall impressions on whether social network is supportive enough or not.^[26] In general, social support is one of the most important factors that have a positive impact on women's well-being in pregnancy, childbirth, and postpartum. The protective role of social support for PPD was shown in studies. For example, based on some studies, social support and close relationship with others (e.g., family, friends, and significant others [SOs]) have positive effects on well-being of mothers during the postpartum by reducing the risk of postpartum depression.^[23,27] Importantly, a rich body of literature has reported social support and close relationship with partner and family members associated with healthier inflammatory profiles during pregnancy and the postpartum period,^[28] lower stress and symptoms of depression and anxiety during pregnancy,^[29] higher level of parental role competence,^[30] lower maternal and infant distress 6–8 weeks postpartum,^[31] maternal prenatal and postpartum mental health,^[32,33] and seeking help for depression in the postpartum period.^[34] Furthermore, previous studies have shown that lower social support (perceived or received) to be an important determinant role in predicting PPD.^[22,35]

On the other hand, there is a growing body of the research that emphasizes the importance of both religiosity and spirituality roles in physical and mental health.^[36,37] Since spirituality is a multidimensional structure, it has been given different definitions. The National Interfaith Coalition on Aging (1975) has defined spiritual well-being (SWB), as "the affirmation of life in a relationship with God, self, community and environment that nurtures and celebrates wholeness."^[38] Today, professional mental health specialists and researchers have focused on positive effect of religion and spirituality in reducing the depression in new mothers. For example, one follow-up research found that in the postpartum period, women who participated in organized religious activities at least a few times a month were significantly less likely to report high depressive symptom scores.^[39] This research emphasizes that religiousness is a protective factor against postpartum depressive symptoms. In another study, data analysis revealed that religious commitment predicted

lower symptoms of postpartum depression.^[40] In their study, Cheadle *et al.* indicated that women with higher religiousness and spirituality have higher levels of mastery, optimism, and self-esteem in the postpartum period.^[41]

Despite existing various researches on the etiology, screen, treatment, and management of PPD, there is a gap concerning psychosocial factor role including social support and SWB for PPD. In other words, it is important to examine women's social support perceptions and SWB as the psychosocial factors, which may have an important role in the prediction and trajectory of PPD. Therefore, the purpose of this study was to evaluate the association between perceived social support and SWB with PPD. It is thought that this study will be a beneficial guide in recognizing of protective factors of PPD and its appropriate management.

Materials and Methods

This descriptive survey study was performed on all the mothers referring to therapeutic centers affiliated to Qom University of Medical Sciences. In total, 200 eligible mothers were selected through a convenience sampling method in the 4th–8th weeks after delivery. Mothers during their postpartum visits were invited to participate in the study.

Inclusion criteria were as follows: Iranian nationality, age range of 18–35 years, 4–8 weeks after delivery, wanted pregnancy, term pregnancy, single pregnancy, no physical illness, consent to participate in the study, and literacy for reading and writing. Nonentry criteria were as follows: history of diagnosed psychiatric disorders, history of diagnosed psychiatric disorders in family, history of infertility, congenital malformations of the fetus, preterm birth, infant death, premature or twin birth, and complications during pregnancy (e.g., hypertension, seizure, and bleeding). Exclusion criteria were as follows: complete, confused, and unreliable questionnaires and the unwillingness of the participant to continue the cooperation in research.

After the approval of the Ethics Committee of Qom University of Medical Sciences (IR.MUQ.REC.1397.148) and submission of a reference letter to the therapeutic centers, sampling was carried out through observing the ethical considerations. Questionnaires were completed by the participants. First, the participants completed a demographic questionnaire, including age, type of delivery, occupational status, and level of education. Afterward, they completed the Edinburgh Postnatal Depression Scale (EPDS),^[42] Multidimensional Scale of Perceived Social Support,^[43] Paloutzian and Ellison Spiritual Well-Being Scale,^[44] and Farhangestan Spiritual Health Questionnaire.^[45]

Assessment instruments

Edinburgh Postnatal Depression Scale

PPD was measured using the EPDS.^[42] The EPDS is a self-administered 10-item measure of PPD symptoms in the previous 7 days.^[42] Responses are scored on a four-point Likert scale. The total score can range from 0 to 30. In this study, a cutoff score of 13 represents a risk for PPD. The Persian form of the EPDS has a sensitivity of 93.5% and specificity of 87.9%.^[46]

Multidimensional Scale of Perceived Social Support

This self-report scale has 12 items and provides an assessment of three sources of support: namely family (Fam), friends (Fri), and SO.^[43,47] Items are measured on a seven-point Likert scale (1, very strongly disagree, to 7, very strongly agree). This scale has a total score and three subscale scores. The score for each subscale is obtained from the sum of the scores that are divided by 4. To obtain the total score, the scores of the 12 items are added up and divided by 12. The subscale scores range between 4 and 28 points. The total scores (sum of three subscale scores) range from 12 to 84. Higher scores indicate that perceived social support is high. The reliability and validity of the Persian version of this scale have been confirmed by Salami *et al.* According to their findings, Cronbach's alpha of family, friend, and SO subscales were 0.86, 0.86, and 0.82, respectively. These results indicate that the scale and its subscales had acceptable internal consistency.^[48]

Spiritual Well-Being Scale

The SWBS is a 20-item self-report scale designed to assess two aspects of SWB: religious well-being (RWB) and existential well-being (EWB). RWB focuses on one's relationship with God. EWB emphasizes the sense of life meaning, purpose, and life satisfaction.^[44] Answers to the items are to be given in a six-point rating scale (1= not applicable to me at all and 6= completely applicable to me). To score the scale, the numerical values for each response are added for each of the subscales. Scores will range from 10 to 60 on the subscales and 20–120 on the SWBS value.^[49] The well-being of individuals is categorized based on the score of the SWBS as low (20–40), moderate (41–99), and high (100–120). The reliability and validity of this scale were established in various studies.^[49] The Persian version of the SWBS is a valid and reliable measure to assess spiritual and RWB.^[50] In Abbasi *et al.* study, Cronbach's alpha for the SWBS was >0.85 and the repeatability was between 0.88 and 0.98.^[50]

Farhangestan spiritual health questionnaire

The Farhangestan Spiritual Health Questionnaire was developed by Amiri *et al.* to assess spiritual health, and it is an Islamic native questionnaire that includes specific questions according to culture, social, and religious conditions of the majority of Iranian people.

This questionnaire is a 40-item self-report questionnaire, and items are measured on a five-point Likert scale (1= not at all and 5 = always). The content validity of this questionnaire has been confirmed by Amiri *et al.*^[45] It has also been reported that this instrument has a good internal consistency (Cronbach's alpha = 0.7).^[45] The results of test–retest analysis confirmed the reliability of the questionnaire.^[45]

Ethical considerations

The study participants were informed about the study aims. Consent informed obtained before the participant enters the research. Participants had the right to withdraw at any time in the study. All participants were assured that the information obtained would remain confidential. Mothers with clinical symptoms of depression were referred to a psychiatrist.

Statistical analysis

All statistical analyses were performed with SPSS version 22. Descriptive statistics were reported using frequency, percentage, mean, and standard deviation (SD). The Chi-square test was utilized to assess the difference among variables. The Pearson correlation was used to analyze the relationship between variables. Logistic regression analysis was used to predict PPD based on the SWB and perceived social support. Statistical significance was determined by a two-sided $P < 0.05$.

Results

In this study, the mean (SD) age of the women was 26.23 (SD = 5.59). Table 1 presents the other clinical and sociodemographic characteristics of women who participated in this study [Table 1].

In the total sample, 44 mothers (22%) had scores of 13 or higher on the EPDS (cutoff score >13), indicating significant depressive symptoms.

Among the 44 depressed participants, 73.3% reported low perceived social support, 27.8% moderate perceived social support, and 13.7% high level perceived social support. Furthermore, 4 nondepressed mothers (2.56%) reported low perceived social support. A higher proportion of the women in this group (113 mothers [72.43%]) had a high level of perceived social support. In addition, 39 (25%) women reported a moderate level of perceived social support. In the depressed group, total women (100%) had a high score in SWB (Farhangestan Questionnaire) and 10 depressed mothers had a high score in SWBS. About 77.27% of depressed women reported a moderate level of SWB in SWBS. In the nondepressed group, 155 mothers (99.5%) had a high score in SWB (Farhangestan Questionnaire) and about

58% of women in this group reported a high level of SWB in SWBS [Table 2].

Data analysis with Chi-square showed no statistical difference between depressed and nondepressed mothers in SWB (Farhangestan Questionnaire) ($P = 0.78$). According to the Chi-square test, there was a significant difference between depressed and nondepressed mothers in SWB in SWBS ($P = 0.00$) and total score of perceived social support ($P = 0.00$) [Table 2].

The results of the Pearson correlation showed that the relationship between total score and all subscale of the Multidimensional Scale of Perceived Social Support

(MSPSS) with EPDS score is significant at 0.01 levels of significance. A negative correlation coefficient between depressive symptoms of EPDS and perceived social support indicated that a high score in depressive symptoms is correlated with a low perception of social support in the sample group [Table 3].

Data analysis showed that there were negative relationships at 0.01 levels between depression symptoms of EPDS and SWB in both Farhangestan Questionnaire and SWBS [Table 4].

A logistic regression analysis was performed with the state of PPD as the dependent variable and three factors of SWB (Farhangestan), SWBS, and perceived social support as the predictive variables [Table 5].

The result showed that SWBS and perceived social support are valid for prediction in the model. Mothers with higher scores on SWBS and MSPSS reported lower symptoms of depression in the postpartum period.

Discussion

In our study, 22% of women had EPDS scores ≥ 13 . The result of our study was consistent with previous study,^[51] which showed that the prevalence of PPD has 23.7% in Qom city. In addition, the prevalence of PPD in this study was close to the prevalence rate of PPD in the general Iranian population reported by Veisani *et al.*^[52] Compared with other studies,^[5,6] the prevalence of depressive symptoms in this study was found to be slightly higher. However, it should be noted that instrument that was used in the study for screening depressive symptoms (i.e., EPDS) is a self-report tool that might not have sufficient diagnostic power. Nevertheless, since the EPDS is the most widely used tool in the assessment of postnatal depression (PND), the significant number of the sample group in the present study most probably will show clinical symptom of PPD.

Furthermore, the results showed that there was a significant relationship between depressive symptoms in EPDS and perceived social support. It was found that

Table 1: Clinical and sociodemographic characteristics of participants

Characteristics	n (%)
Education	
University and higher	65 (32)
High school	108 (54)
Primitive school	27 (13.5)
Employment	
Unemployed	154 (77)
Employed	46 (23)
Husband employment statuses	
Unemployed	24 (12)
Employed	176 (88)
Delivery mode	
Vaginal	113 (56.5)
Cesarean section	78 (43.5)
Baby gender	
Boy	118 (59)
Girl	82 (41)
Previous abortion	
Yes	58 (29)
No	142 (71)
Breastfeeding	
Yes	178 (89)
No	22 (11)
Previous parenting experience	
Yes	89 (45)
No	110 (55)

Table 2: Comparison of depressed and nondepressed mothers in spiritual well-being and perceived social support

Variable	Depressed	Nondepressed	df	χ^2	P
SWBS (Farhangestan Questionnaire), n (%)					
High	44 (100)	155 (99.5)	1	0.283	0.78
Low	0	1 (0.5)			
SWBS, n (%)					
High	10 (22.72)	92 (58.97)	1	18.04	0.000
Moderate	34 (77.27)	64 (41.02)			
Perceived social support, n (%)					
High	18 (40.90)	113 (72.43)	2	29.29	0.000
Moderate	15 (34.09)	39 (25)			
Low	11 (25)	4 (2.56)			

SWBS=Spiritual Well-Being Scale

Table 3: Correlations among depression symptom of Edinburgh Postnatal Depression Scale and perceived social support

Variable	1	2	3	4	5
Depressive symptoms of EPDS	1				
Total score of MSPSS	-0.382**	1			
Perceived support (family)	-0.261**	0.0853**	1		
Perceived support (friends)	-0.0358**	0.0858**	0.0592**	1	
Perceived support (SOs)	-0.332**	0.820**	0.638**	0.488**	1

**P<0.01. EPDS=Edinburgh Postnatal Depression Scale, MSPSS=Multidimensional Scale of Perceived Social Support, SOs=Significant others

Table 4: Correlations among depression symptoms of Edinburgh Postnatal Depression Scale, spiritual well-being (Farhangestan Questionnaire), and spiritual well-being

Variable	1	2	3
Depressive symptoms of EPDS	1		
SWBS (Farhangestan)	-0.512**	1	
SWBS (SWBS)	-0.534**	-0.516**	1

**P<0.01. EPDS=Edinburgh Postnatal Depression Scale, SWBS=Spiritual Well-Being Scale

Table 5: The result of logistic regression analysis for two variables (spiritual well-being and Multidimensional Scale of Perceived Social Support)

Variable	B	SE	Wald	df	Significant	Exp(B)
SWBS	-1.783	0.425	17.635	1	0.000	0.168
MSPSS (total)			21.131	2	0.000	
MSPSS (total) 1	-2.338	0.737	10.052	1	0.002	0.097
MSPSS (total) 2	-3.221	0.717	20.211	1	0.000	0.040
MSPSS (family)			1.767	2	0.413	
MSPSS (family) 1	1.224	0.971	1.591	1	0.207	3.402
MSPSS (family) 2	0.824	0.971	0.713	1	0.399	2.280
MSPSS (friend)			8.447	2	0.015	
MSPSS (friend) 1	-1.766	0.637	7.683	1	0.006	1.171
MSPSS (friend) 2	-1.450	0.640	5.132	1	0.023	0.235
MSPSS (others)			7.999	2	0.018	
MSPSS (others) 1	-0.419	0.890	0.222	1	0.637	0.658
MSPSS (others) 2	-1.985	0.984	4.379	1	0.036	0.137

SE=Standard error, Df=Degrees of freedom, SWBS=Spiritual Well-Being Scale, MSPSS=Multidimensional Scale of Perceived Social Support

mothers who had a high level of depressive symptoms reported a low level of perceived social support. This finding is consistent with the other study that revealed the potential role of low social support (perceived or received) in PND/PPD.^[14,35] In the postpartum period, close relationship with family members, friends, and others can help women to cope with new conditions and stressful maternal responsibilities more easily. Moreover, social support (perceived or received), as a facilitator, can increase parental role competence, satisfaction,^[53] maternal self-efficacy,^[30] and lower maternal distress^[31] of mothers. These are the potential factors that may lead to positive effects on well-being of mothers and protect them from depression in the postpartum period.

It was also found that in contrast to the non-depressive group, depressive mothers had less SWB based on the

scores of SWBS. Moreover, the results showed that SWB and depressive symptom during postpartum were negatively associated with each other. There is very little research on the association between spiritual well-being and maternal mental health with depressive symptoms during postpartum. This finding is consistent with previous small literature that demonstrated religiousness and spirituality are associated with lower symptoms of depression in mothers during postpartum.^[39-41] These results confirm that spirituality is an important source for the prevention of postpartum depression. These results may affirm that spirituality is possibility an important resource for these women to prevent depression or cope with stressful events in the postpartum period. These findings clarify the previous findings on the negative association between spirituality and depression.^[54] The authors of this study propose that spirituality as a psychosocial resource provides mothers with better mental and physical health in the postpartum period. Based on the findings of this study, it can assume that spirituality has a protective role against depressive symptom in the postpartum period by providing positive coping, flexibility, high frustration tolerance, meaning, or purpose in life. Another result of this study was that there was no difference between the two groups in SWB based on the Farhangestan Questionnaire which is a native instrument to assess SWB. This difference can be related to the content and structure of questionnaire. The Farhangestan Questionnaire only reports a low and high level of SWB, whereas SWBS measures SWB based on high, moderate, and low levels. On the other hand, however, this questionnaire is a native instrument for the Iranian population, which is administrable just to Muslims.

The major strengths of our research include the use of the Persian version of SWB which allows us to assess SWB in accordance with Iranian culture. Another strength of this study was a good sample size of Iranian mothers in the postpartum period. Several methodological limitations should be considered. In this study, the researchers focused on self-report instrument for screening PPD, whereas clinical interviews for PPD diagnosis are essential. Furthermore, data were collected one time during the postpartum period (4–8 weeks postdelivery). Long-term, postpartum follow-up is needed to highlight

the interaction between PPD, perceived social support, and SWB. In addition, reverse causality in this study was not considered. For example, depressive symptoms may affect interpersonal relationship and lead to the impaired perception of social support. Longitudinal research is much needed to elucidate the relation between depressive symptoms and social support (perceived or received) in mothers with PPD. Another limitation of our research was that the PPD group had only 44 women, and the findings may require further confirmation in a larger sample of women with PPD.

Conclusion

Taken together, the results from this study indicate that there are positive associations between SWB, high prevised social support, and lower level of depressive symptom in women during postpartum. These results confirm those of previous studies that emphasize the interaction between SWB and high prevised social support with mental health of mothers in the postpartum period. Based on the results of this study, we can conclude that interventions which promote SWB and social support in pregnant mothers would be more likely to reduce the likelihood of PPD.

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Conflicts of interest

There are no conflicts of interest.

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