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CLINICAL ARTICLE

Spouse's social support in the postpartum period, predictors and its' relationship with postpartum depression in a sample of Iranian primiparous women

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Keywords

Depression; Postpartum; Social support

Synopsis

Life satisfaction & spouse employment are important predictors of partner support. Postpartum depression and spouse support are inversly related.

ABSTRACT

OBJECTIVE: To investigate the predictive factors of receiving spouse support in the postpartum period (PP) and its relationship with postpartum depression (PPD).

METHODS: This cross-sectional study was conducted between Januarys to May 2019 on 250 primiparous women to determine the predictors of spousal social support in the PP. Three scales were used to collect data and included The Demographic and obstetric checklist, Postpartum Partner Support Scale (PPSS) and the Edinburgh Postpartum Depression Scale.

RESULTS: Multivariate regression showed that the employment status of the spouse and life satisfaction variables were predictive of whether social support was received from a spouse in the PP. In total, the variables examined in this model explained 19% of the variance for a mother receiving spousal social support in the PP. PPD and spousal social support had a moderately inverse and significant correlation (β = -0.39).

CONCLUSION: Life satisfaction and employment of the spouse are important predictive variables for receiving social support of the spouse in the PP. There is also a significant inverse relationship between PPD and spouse social support.

1 Introduction

Being a mother can be one of the most enjoyable events in a women's life, however motherhood can be accompanied by increased physical and mental demands and stressors [1]. The postpartum period (PP) begins immediately after the baby is born and lasts for up to six weeks after birth. The World Health Organization describes this period as the most important stage in the lives of mothers and infants [2].

The birth of a child can lead to a dynamic change in the family, which can be a source of physical and emotional vulnerability for all family members, but especially mothers [3]. However, receiving social support has been found to be an important factor in reducing a mother's vulnerability and stress[4]. Social support represents the emotional, psychological, or physical support provided from another person. Family members, friends, neighbors, co-workers, relatives, and clinicians are common sources of social support for mothers during the PP. These individuals can provide psychological support to mothers as well as informational support [5]. Family-based support from an intimate, and ongoing interpersonal relationship, such

as a spouse, has been found to increase a mother's perceived parenting skills and self-confidence. Spousal support for mothers has also been reported to strengthen a mothers' ability to adapt and deal with the new stressors after childbirth and improve the strengthening of the mother-child relationship [4].

Maternal fatigue, postpartum blues, depression, anxiety, and postpartum stress are conditions that require support, especially for first-time mothers [6]. The amount of support required, as well as the type of support needed, can vary according to the changing needs of women from pregnancy to the PP [7]. In many parts of the world women are discharged from hospital and return to their homes shortly after birth which can result in diminished support and care. In addition, after childbirth, the attention of family members can be shifted away from mother to the child. Working mothers who return to work may be more vulnerable and experience more stress [8]. Maternal support is associated with increased self-confidence in infant care practices and can facilitate the transition to motherhood [9].

Evenson examined the impact of social support offered by a spouse on postpartum physical activity and found that one of the barriers to physical activity in the PP is the lack of time [10]. Furthermore, childcare and spousal support have been found to be two of the strongest determinants for women's engagement in physical activity [11]. Smith found that having high social support in the PP significantly increased the chances of physical activity by 2.5 times [12]. Social support, especially from the spouse, is an important resource for promoting the physical and mental health of mothers and an important factor in protecting against PPD [13].

Given the importance of the role of the spousal social support in the PP, the present study was designed to investigate the predictive factors of mother's receiving social support from a spouse in the PP and its relationship with PPD. Identifying these factors can assist postpartum care providers to identify those at risk of receiving insufficient spousal social support in the PP and design appropriate training and counseling interventions in response.

2 Materials and Methods

Design & participants

This cross-sectional study was performed to determine the predictors for spousal social support for mothers in the PP. The study was conducted between January

2019 and May 2019 on 250 primiparous women. These women were referred to the urban Comprehensive Health Centers (CHCs) of University of Medical Sciences for second or third postpartum care. Second postpartum care is routinely provided 12 to 15 days after delivery, and third postpartum care is provided for about 40 to 45 days after delivery in CHCs. Criteria for entering the study included being primiparous, having a healthy baby, and living with a spouse. Having a history of physical or mental illness and experiencing pregnancy and childbirth complications such as pre-eclampsia, pre-term labor excluded participation.

Estimation of sample size & sampling

This study was done alongside of psychometric study of the Persian version of Postpartum Partner Support Scale. However, the sample size was not calculated separately, but the regression test power was calculated by considering the first type error of 0.05 and the sample size of 250 people. The results of power calculation showed that the present study was able to determine the predictors of social support of the spouse in the postpartum period by power more than 80% (type II error= 0.2). According to access to participants with maximum variation of socioeconomic status, sampling was performed in two stages. In the first stage, cluster sampling was performed whereby health centers were considered as clusters. There are five geographical areas in Qazvin. In order to achieve a sample size of 250 people, 50 samples were allocated to each region. Considering the existence of five centers in each geographical area, two centers were randomly selected to select 50 samples from the centers of each region. Finally, 25 eligible women from each center were selected using a random number table and participated in the study.

Procedure

In this study, after obtaining the necessary permissions to collect data, ten CHCs were randomly selected. After identifying potential research participants (women who had recently given birth and referred to CHCs to receive second and third postpartum care and were eligible to enter the study), the objectives of the research, freedom of participation in the research, and the confidentiality and privacy of the information collected, were explained. After obtaining informed consent to participate in the study, participants were asked to complete the questionnaire while waiting to receive the second or third service of their postpartum visit. In order to attract more participation, participants were given the necessary explanations about the importance of the study before completing the questionnaire. Each participant was

also given a small gift, including a booklet on how to care for a child in the first two years of life. The researcher provided her contact number to the mothers so that they could contact her if she had any questions or needed advice. In order to complete the questionnaire, in coordination with the head of the center, a private room was provided. Mothers were asked to read the questionnaire and complete it carefully.

Measures

In this study, three scales have been used to collect data:

The Demographic and obstetric checklist was designed to include the age of the woman and her spouse, the level of education of the woman and her spouse, the job of the woman and her spouse, the socio-economic status of the family, the gestational age at birth, the birth weight of newborn, the sex of the baby, and any underlying problems.

Postpartum Partner Support Scale (PPSS): This scale was developed in 2017 by Dennis et al. [14] and has 20 items with a 4-point Likert response from completely disagree to completely agree. The final score is calculated as the total score of the items, which varies between 20 and 80. A higher score indicates more social support from the spouse. The questionnaire was based on the theoretical model of social relations and the functional components of social support. Linguistic validation of Farsi version was done using the forward-backward method [15]. The translated version was sent to and verified by developer of the PPSS semantically. Content validity was assessed by experts. Psychometric evaluation, including internal stability analysis, exploratory factor analysis, reliability, predictive and concurrent validity, showed the desired psychometric characteristics of the English version. Cronbach's alpha for this scale was also 0.96. Preparation of the Persian version and evaluation of the psychometric characteristics of this scale was performed by Eslahi et al (2019). Confirmatory factor analysis and analysis based on Rasch linear patterns and concurrent validity confirmed the acceptable validity of PPSS. In addition, Cronbach's alpha coefficient of 0.94 and acceptable correlation between items confirmed the acceptable reliability of this scale [16].

Edinburgh Postpartum Depression Scale (EPDS): This 10-item scale is designed to detect PPD. Edinburgh's score is between zero and 30, and scores of 12 or more are considered PPD. Psychometric properties of Persian version was verified by Golzar et al. in 2015[17].

Ethical considerations

The research proposal was reviewed by the Vice Chancellor for Research and the Ethics Committee in Biological Research and approved by receiving the code of ethics at IR.QUMS.REC.1397.265. At the time of participation in the study, a written informed consent was obtained from the participants

Statistical analysis

The data was analyzed using SPSS version 24 (IBM crop, New York, USA). The data is presented as mean with Standard Deviation (SD) for continuous data and frequency and percentage for categorical data. Univariate and multivariate linear regression was used to determine the predictors of spouse social support in the PP. In the univariate model, the relationship of individual variables with spouse support in the PP was examined. Variables with a significant single-variable level above 0.05 entered the multivariate model. To perform the linear regression model, the mean score of PPSS as a dependent variable and other variables as independent variables were entered into the model.

Linear regression model was also used to investigate the relationship between PPD and spouse social support in the PP. In this model, PPD entered as the dependent variable and PPSS entered as independent variables. The initial model was univariate regression. However, in order to examine more closely the relationship between these two variables with control of the effect of demographic characteristics, multivariate linear regression was used.

In the multivariate regression model, the ENTER method was used to enter the independent variables in the model. Independent categorical variables with more than two categories were defined as dummy and then entered into the model. The assumptions of the linear regression test, including the normality of the dependent variables distribution and the absence of discarded data before the implementation of the model, were investigated and confirmed. After the test, there was VIF <2 & Tolerance <1 for all variables and Durbin watson <2 for models. Therefore, the test assumptions were established. The significance level of all tests was 0.05.

3 Results

A total of 250 women were invited to participate in the study, and 248 people answered all the questions in the questionnaires. The average age of women and their spouses were 27.84 and 32.64 years respectively. Most of the participants

(81%) did not have employment outside of the home and were primary caregivers. The mean gestational age of women was 38.86 weeks, the mean birth weight of their neonates was 3407.49 grams and the sex of their infants was female in 53.2% of cases. The mean score of PPD scale was 6.95 (5.32) and in the PPSS was 64.32± 10.45. Table 1 shows the demographic characteristics of the participants. In order to ensure the absence of significant differences between the subjects in different health centers before the regression model, the characteristics of the individuals in different centers were compared with each other. The results showed that women in different centers did not differ significantly in terms of demographic characteristics and main variables of the study (depression and spouse social support). Only the variables of education of the woman and her husband have significant differences between different health centers. In the final model, these two variables did not have a significant effect on the receiving spouse social support in the postpartum period. The results of univariate regression showed that age, job and education of the spouse, education of the woman, perceived socio-economic status, life satisfaction and average score of PPD are significantly related PPSS in the PP (Table 1). The results of multivariate regression (Table 2) showed that the employment status of the spouse and life satisfaction were predictive variables of receiving spouse social support in the PP. According to non-standardized coefficients, the average social support score of the wives of working men was about 20 points higher than that of unemployed men. Also, women with high life satisfaction reported higher average PPSS score of about 7 points higher than those with relative satisfaction. The standardized coefficients in the multivariate model for life satisfaction and employment of the spouse were 0.30 and 0.21, respectively. In total, the variables examined in this model explained 19% of the variance in receiving spousal social support in the PP.

The results of the study showed that PPD and spouse social support in the PP had moderately inverse and significant relationship (β = -0.39). Of course, the power of this relationship decreased slightly after control of other demographic characteristics (presented in Table 1) but still (β = -0.33) showed a moderate and inverse relationship (Table 3). Therefore, with the increase in spouse support in the PP, PPD decreases.

4 Discussion

The aim of this study was to determine the predictors of mothers receiving spousal social support in the PP. Although social support for parturient women has been considered in some studies, all have used general measures of social support. However, in the present study, for the first time, the spousal social support was considered specifically given its importance in the PP. The findings of the present study showed that the rate of receiving spousal support by mothers was 64.32 (on a PPSS score of 80-20).

Many studies have shown that spousal social support enhances women's self-efficacy, improves the likelihood of breastfeeding, increases quality of life, reduces anxiety and PPD, improves women's physical and mental health in the PP and results in better infant care [13, 18-20]. Although the consequences of social support in the PP have been studied in various studies, no study has examined the factors influencing spousal social support for mothers during this period. The results of the multivariate linear regression model in the present study showed that life satisfaction and employment of the spouse were important predictive variables for receiving spousal social support in the PP.

Women who reported high life satisfaction had higher scores on PPSS. Life satisfaction is a cognitive-judgmental process in which a person forms a general perception of their life by comparing it with a personal standard that each individual sets for themselves [21]. A positive and significant relationship between social support and life satisfaction during pregnancy and postpartum has been previously reported [19]. Life satisfaction is related to environmental factors and stressful life events [22], signifying that major life events may impact life satisfaction [23]. However, Suldo and Huebner [24] and Moreno-Maldonado et al [21] noted that life satisfaction can also act as a protective factor against the negative effects of stressful life events. Lower life satisfaction can signal the need for careful observation for signs of possible postpartum mood disorders [25]. Also, Women with working spouses had higher scores on PPSS. In this study, the employment of spouses had a positive effect on the social support received in the PP. This can be explained by the fact that working spouses, due to their income, may have less economic worries and are therefore able to provide support to their spouses. Holstein [26] found that as socio-economic status predicted life satisfaction. As socio-economic status increases, so does life satisfaction.

In the present study, there was a significant inverse relationship between receiving spousal social support and PPD. This means that PPD decreases with increasing support for the mother in the PP. In a study by Dennis et al. [14], it was found that spouse social support in PP was inversely related to depression and postpartum anxiety. Previous studies have shown that postpartum social support reduces postpartum grief and PPD [17, 19, 20]. As Kim [27] reported mothers received no support or minimal support after the birth of the baby were approximately five times more likely to experience PPD.

Strenghts and Limitations

This study is the first of its kind to examine the predictive variables of spousal social support in PP using a dedicated scale. However, in interpreting the findings of this study, the limitations of the study, including the nature of self-reporting of the outcomes and the selection of primariparous mothers, should be considered. Due to the potential differences between primiparous and multiparous mothers in terms of the level of support received from the spouse and others, parental experiences, and the volume of caregiving responsibility dependent on number of children, a primiparous criterion was applied to ensure that the conditions of the participants were as homogeneous as possible. Therefore, the results of the study cannot be generalized to multiparous mothers.

5 Conclusion

The present study found a significant inverse relationship between PPD and spouse social support. Life Satisfaction and employment of the spouse are important predictive variables for mothers receiving spousal social support in the PP. These finding have important implicatons for devising preventative interventions for supporting the mental health and wellbeing of mothers in the PP.

Abbreviations:

PPSS: Postpartum Partner Support Scale

PP: Postpartum Period

PPD: Postpartum Depression

EPDS: Edinburgh Postpartum Depression Scale

CHC: Comprehensive Health Centers

Author contributions

ME, ZA & NB contributed to the conception and design of the study, ME contributed to data collection, ZA contributed in data analysing and interpretation of data. ZA and NB drafted the manuscript. KAA and ZA and NB provided contributions to the literature review and discussion and substantially edited the primary manuscript and prepared the final version of the manuscript. All authors revised the manuscript, agreed to be fully accountable for ensuring the integrity and accuracy of the study, and read and approved the final version of the manuscript to be published. All the authors met the criteria for authorship, and they are listed as co-authors on the title page.

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Conflict of interests

The authors have no conflicts of interest

Ethical approval

The current research protocol was approved by the research review board of the Human Ethics Committee of the Faculty of Nursing and Midwifery, Qazvin University of Medical Sciences (IR.QUMS.REC.1397.265). All participants of the study provided written informed consent after they were informed of the general aims of the study and their confidentiality and privacy ensured.

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TABLE 1 Participants' characteristics and results of uni-variable regression analysis regarding their predicting role for PPSS

Qualitative variables		Mean (SD)	**variable -Results of uni regression analysis**		
			B	Standard error	P value
Women's Age (year)		27.84 (4.72)	0.1	0.14	0.501
Spouse's Age (year)		32.64 (5.32)	0.25	0.12	**0.042**
Gestational age (weeks)		32.86 (1.3)	-0.35	0.52	0.501
Birth weight (gram)		3407.9 (1739.44)	-0.001	0.000	0.193
Quantitative variables		No (%)	B	Standard error	P value
Women's educational stat	Non-Academic	149 (60.1)	RG		
	Academic	99 (39.9)	3.95	1.33	**0.003**
Spouse's educational stat	Non-Academic	156 (62.9)	RG		
	Academic	92 (37.1)	4.08	1.35	**0.003**
Women's job	Housewife	201 (81)	RG		
	Employed with maternity leave	39 (15.7)	3.41	1.82	0.061
	Employed without maternity leave	7 (2.8)	1.78	4	0.662
Spouse's job	Unemployed	3 (1.2)	RG		
	Employed	245 (98.8)	27.32	5.83	**<0.001**
Perceived economic status	Moderate	179 (72.2)	RG		
	Poor	25 (10.1)	-5.49	2.18	**0.011**
	Good	44 (17.7)	4	1.72	**0.021**
Life satisfaction	Partially satisfied	63 (25.4)	RG		
	Completely satisfied	185 (74.6)	8.60	1.43	**<0.001**
Neonate gender	Girl	132 (53.2)	RG		
	Boy	116 (46.8)	-2.1	1.33	0.121

RG: Reference Group

TABLE 2 Result of multivariable regression analysis regarding predictors of PPSS

Variables		Unstandardized Coefficients		Standardized Coefficients	P	95% CI for B	
		B	Standard error	Beta	value	Lower Bound	Upper Bound
Spouse's Age (year)		.178	.112	.093	.113	-.043	.40
Women's educational stat	Non-Academic	RG					
	Academic	2.448	1.509	.115	.106	-.53	5.42
Spouse's educational stat	Non-Academic	RG					
	Academic	.867	1.565	.040	.580	-2.22	3.95
Spouse's job	Unemployed	RG					
	Employed	19.710	5.859	.207	**.001**	8.17	31.25
Perceived economic status	Poor	-.982	2.667	-.028	.713	-6.24	4.27
	Moderate	-1.692	1.653	-.073	.307	-4.95	1.56
	Good	RG					
Life satisfaction	Partially satisfied	RG					
	Completely satisfied	7.122	1.479	.297	**.000**	4.21	10.04
Model Summary: R=0.46		R^2=0.21		Adj R^2= 19.1 %			
RG: Reference Group							

TABLE 3 Result of crude and adjusted regression analysis regarding predicting role of PPSS for EDPS

Model	Unstandardized Coefficients		Standardized Coefficients	P value
	B (95% CI B)	Standard error	Beta	
Crude	-0.20 (-0.23;-0.14)	0.03	-0.39	<0.001
Adjusted*	-0.17 (-0.23;-0.10)	0.03	-0.33	<0.001

*Adjusted for Women and Spouse's, Gestational age, Birth weight, Women and Spouse's educational stat, Women and Spouse's job, Perceived economic status, Life satisfaction & Neonate gender