Association between Perceived Social Support and Postpartum Depression in Turkey

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Authors' contributions

This work was carried out in collaboration between all authors. Authors DÖ, AÇÇ and SCU designed the study, performed the statistical analysis and wrote the protocol. Authors DÖ and EÖ wrote the first draft of the manuscript. Authors AÇÇ and SCU managed the analyses of the study. Authors DÖ, AÇÇ and SCU managed the literature searches. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Aims: The purpose of this study was to find out the association between perceived social support and postpartum depression.
Study Design: This study was a cross-sectional study.
Place and Duration of Study: The cross-sectional study was carried out in Manisa, a city in western part of Turkey.
Methodology: Two hundred eighty seven postpartum women were included in the study using stratified sampling from the records of 11 primary health care centers in Manisa city centre. Depression and social support were measured using, Edinburgh Postnatal Depression Scale and Multidimensional Scale of Perceived Social Support.
Results: It was found that the point prevalence of post partum depression (Edinburgh Postnatal Depression Scale total score >12) was 13.5%. Smoking, pregnancy number, social support from family and from a significant other predicted postpartum depression, but baby's gender, family type, perceived family income, educational level, occupation, having a health insurance, antenatal care, unwanted pregnancy and social support from

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friends did not.

Conclusion: Postpartum depression is a public health problem in Turkey and social support from family and from a significant other is associated with postpartum depression. This finding highlights that there is a need to address this unmet need in planning interventions. But prevalence rate of postpartum depression and differential effects of risk factors on postpartum depression vary substantially among countries and regions, this should be taken into consideration when planning interventions for postpartum depression.

Keywords: Postpartum depression; social support; risk factors; public health; preventive health care.

ABBREVIATIONS

EPDS: Edinburgh Postnatal Depression Scale; PPD: Postpartum depression; MSPSS: Multidimensional Scale of Perceived Social Support

1. INTRODUCTION

Postpartum depression (PPD) is a public health problem which adversely affects health of both the mother and the newborn. Review studies show prevalence rates of postpartum depression varying from 5% to 22% [1] and from 4.4% to 73.7% [2]. Furthermore, a meta-analysis based on the results of a large number of studies showed that the average prevalence rate of non-psychotic postpartum depression was 13% [3]. In Turkey PPD prevalence ranges from 9.6% to 42.7% [4-13]. Postnatal depression strongly influences all dimensions of life quality of mothers negatively [14]. Depressed mothers in the postnatal period had significantly higher levels of disability [15]. There is a statistically significant association between 'maternity blues' and 'postpartum maternal attachment' [16] and between depressive symptoms and attachment style in postpartum women [17]. Breastfeeding discontinuation at 12 weeks was associated with maternal depressive symptoms [18]. Maternal postnatal depression has been found to be associated with poor growth and development in infants [15,19]. Women with history of postpartum depressive symptoms were more prone to have subsequent depressive symptoms and experience illness [20].

The cause of PPD is not known clearly. Many studies indicated the relationship between PPD and psychosocial variables [3,11,13,21,22,23]. A meta-analysis of 59 studies in 1996 has shown that the strongest predictors of postpartum depression were past history of psychopathology and psychological disturbance during pregnancy, poor marital relationship and low social support, and stressful life events [3]. In another meta-analytic study conducted in 2001, 13 significant predictors of PPD were identified: prenatal depression, self esteem, childcare stress, prenatal anxiety, life stress, social support, marital relationship, history of previous depression, infant temperament, maternity blues, marital status, socioeconomic status and unplanned/unwanted pregnancy [21]. Similar results have been found in Turkey [4,11-13,24].

The literature review indicates that postpartum depression appears to be related to social support. But many of the studies did not attempt to identify the sources of social support that are associated with PPD and there are only a few studies which have assessed social

support by using a standardized and well validated screening instrument [11-13,22,25-30]. In some studies it has seen that perceived social support depends on the source of support [22]. Despite these findings, many studies have failed to differentiate support received from different sources [31]. It is important to use appropriate scales with psychometric qualities to find out the impact of social support on PPD and to identify the sources of social support that are associated with PPD. The purpose of the study was to find out the association between perceived social support and PPD and to identify the sources of social support that are associated with PPD in Turkish women who were within 0-3 month's postpartum period.

2. MATERIALS AND METHODS

The cross-sectional study was carried out in Manisa, a city in western part of Turkey. The study sample was derived from the records of 11 primary health care centres in Manisa city centre and there were 1707 women who were within 2-12 weeks postpartum period. Sampling size was calculated to be 330 by using EpiInfo 2000. The study population was selected by using stratified sampling method. Senior students of Celal Bayar University Health of School, Department of Midwifery collected the data through face to face interview. A home visit was performed at 2-12 weeks postnatally. 287 interviews were conducted.

A questionnaire, Edinburgh Postnatal Depression Scale and Multidimensional Scale of Perceived Social Support, was administered during interview. Approval was obtained from the Regional Health Directorate and from participants.

The questionnaire which was developed by authors consisted of 48 questions related to "demographic and socioeconomic factors", "history of a chronic illness", "prenatal, natal and postnatal features" and "social support".

2.1 Edinburgh Postnatal Depression Scale

Edinburgh Postnatal Depression Scale (EPDS) was developed by Cox, Holden, and Sagovsky to detect mothers suffering from postpartum depression [32]. Turkish version of EPDS was used in this study. The reliability and validity study of the Turkish version was conducted by Engindeniz, Küey and Kültür [33]. It is a self-report rating scale with ten items answered on a four point scale and cut-off score 12/13. Mothers who scored 13 points or above were defined as having PPD. The Cronbach alpha of EPDS for this study was .82.

2.2 Multidimensional Scale of Perceived Social Support

Multidimensional Scale of Perceived Social Support (MSPSS) was developed by Zimet, Dahlem, Zimet and Farley to assess subjective perceived support from three sources (family, friends and significant others). The reliability and validity study of the Turkish version was conducted by Eker & Arkar [34]. The Cronbach alpha of MSPSS for this study was .79.

The Statistical Package for the Social Sciences (SPSS) version 11.0 for windows was used to analysis data. Chi-square was performed for nominal data involving frequencies. Student's t test and Mann Whitney U test was used for continuous variables. Logistic regression analysis was performed to find out the effects of sample characteristics on postpartum depression. In the bivariate analysis which were performed to evaluate significant relationship between sample characteristics and postpartum depression, it has seen that all of the variables were found to have significant influence on postpartum

depression. Because of that all of the variables have been included in the multivariate model. Sample characteristics (smoking, pregnancy number, baby's gender, family type, perceived family income, educational level, occupation, having a health insurance, unwanted pregnancy, antenatal care, social support from family, social support from a significant other and social support from friends) were accepted as independent variables, and postpartum depression was accepted as dependent variable.

3. RESULT

3.1 Sample Characteristics

The mean age of the sample was 25.82 (sd 5.04; range 17 to 42; median 26). Half of the women were primary school graduates, 99.3% were married, 85.0% lived in a nuclear family, 84.0% were housewives, 5.2% had a chronic illness and 59.9% had a sufficient income level. The mean age of the women's husband's was 29.64 (sd 4.74; range 18 to 46), 43.2% of the women's husband were high school graduates and 48.4% of them were workers (Table 1).

Table 1. Sample characteristics

	Number	Percentile
Marital status		
Married	285	99.3
Widowed / Separated	2	0.7
Family type		
Nuclear family	245	85.3
Extended family	42	14.7
Educational level		
Uneducated	42	14.7
Primary school graduate	144	50.2
High school graduate	73	25.4
University graduate	28	9.8
Occupation		
Housewife	241	84.0
Employed	46	16.0
Perceived family income		
Sufficient	192	63,9
Insufficient	95	33,1
Husband's education level		
Uneducated	7	2,4
Primary school graduate	118	41,1
High school graduate	124	43,2
University graduate	38	13,2
Health insurance		
Had health insurance	238	83,0
Did not have health insurance	49	17,0
Total	**287**	**100**

Approximately forty percent of women had not used any family planning method and 22.0% of them had had used condoms as a family planning method. Approximately half of the women had delivered boys (Table 2). The mean number of pregnancy (n=259) was 2.00 (sd 1.41; range 1 to 9, median 1.41), the mean number of abortion (n=240) was 1.34 (sd 0.56; range 1 to 3; median 0.56), the mean number of curettage (n=259) was 1.10 (sd 0.41; range 1 to 3; median 0.41), the mean number living children was 1.73 (sd 1,08; range 1 to 3; median 1.08). 81.2% of the pregnancies were planned pregnancies. 71.8% of the women had received antenatal care (Tabel 2).

Table 2. Obstetrical characteristics of women

	n	%
Antenatal care		
Yes	206	71.8
No	81	28.2
Mode of delivery		
Spontaneous delivery	181	63.1
Caesarean section	106	36.9
Unwanted pregnancy		
Wanted	233	81.2
Unwanted	54	18.8
Baby's gender		
Female	153	53.3
Male	134	46.7
Chronic illness		
Yes	15	5.2
No	272	94.8
Smoking		
Yes	37	12.9
No	250	87.1
Total	**287**	**100.0**

One fifth of the women had experienced pregnancy problems and 6.3% had experienced problems during delivery. 8.4% of the women had experienced problem about care of baby.

3.2 Point Prevalence of Postpartum Depression

Thirty-nine of the 287 women achieved an EPDS score of 13 or above, indicating a point-prevalence of postpartum depression of 13.5%.

3.3 The association between Social Support and Postpartum Depression

Depressed women's MSPSS three subscales (social support from family, social support from a significant other, social support from friends) scores were significantly lower than non-depressed women (Table 3).

Table 3. The association between Multidimensional Scale of Perceived Social Support Subscales means and depression according to Edingburgh Postnatal Depression Scale

MSPSS subscales	Depresssion	n	Mean ± Standart deviation	t	*P*
Family	Positive	39	20.82 ± 6.06	4.44	0.00
	Negative	245	25.38 ± 5.20		
Friends	Positive	39	19.17 ± 6.89	3.02	0.00
	Negative	245	22.65 ± 5.09		
Significant Others	Positive	39	22.76 ± 5.26	3.84	0.00
	Negative	245	26.08 ± 2.82		

3.4 The Effect of Sample Characteristics and Social Support on Postpartum Depression

Logistic regression analysis indicated that 4 of 14 variables were determined as predictive factors. Smoking, pregnancy number, social support from family and from a significant other predicted postpartum depression but no association was found between baby's gender, family type, perceived family income, educational level, occupation had health insurance, antenatal care, unwanted pregnancy, mode of delivery and social support from friends and postpartum depression (Table 4).

Table 4. The effect of social support, sociodemographic and obstetrician features on postpartum depression

	Postpartum depression		OR (95% CI)	*P*
	Positive	**Negative**		
Family Type				0.51
Nuclear	32	213	1.00 (ref.)	
Others	7	35	1.33 (0.54-3.25)	
Perceived family income				0.30
Sufficient	28	164	1.00 (ref.)	
Insufficient	11	84	0.76 (0.36-1.61)	
Educational level				0.29
Educated	34	211	1.00 (ref.)	
Uneducated	5	37	0.83 (0.30-2.28)	
Occupation				0.67
Employed	8	38	1.00 (ref.)	
Unemployed	31	210	0.70 (0.30-1.64)	
Health insurance				0.12
Had health insurance	29	209	1.00 (ref.)	
Did not have health insurance	10	39	1.84 (0.83-4.09)	
Smoking				0.04
No	30	220	1.00 (ref.)	
Yes	9	28	2.35 (1.01-5.47)	
Pregnancy number				0.03
$2 \leq$	20	147	1.00 (ref.)	
First	19	101	1.38 (0.70-2.72)	

Table 4 Continue ……

Antenatal care				0.97
Yes	20	177	1.00 (ref.)	
No	19	71	0.86 (0.39-1.85)	
Unwanted Pregnancy				0.50
Wanted	28	205	1.00 (ref.)	
Unwanted	11	43	1.87 (0.86-4.04)	
Baby's gender				0.87
Male	21	113	1.00 (ref.)	
Female	18	135	0.71 (0.36-1.41)	
Mode of delivery				0.79
Spontaneous delivery	24	157	1.00 (ref.)	
Caesarean section	15	91	1.07 (0.53-2.16)	
Social support from family				0.02
Social support from a significant other				0.02
Social support from friends				0.10

4. DISCUSSION

In this study, it was found that different types of social support have differential effects on PPD and post partum depression was associated with social support from family and a significant other but not with social support from friends.

Our study further supports previous evidence that women with low levels of social support from family and a significant other are at high risk of developing postpartum depression. The findings from a meta-analyses of over 14,000 subjects and subsequent studies of nearly 10,000 additional subjects indicated that depression during pregnancy, anxiety during pregnancy, experiencing stressful life events during pregnancy or the early puerperium, low levels of social support and a previous history of depression were the strongest predictors of postpartum depression [35]. Similar findings were reported in other studies. Anxiety and social support were identified as the predictors of postpartum depression in Thai women [36]. Both social support and social networks were statistically significant and independently related to depressive symptomatology [37]. Nonwhite race, physical symptom burden, infant colic, lack of social support and lower self-efficacy scores are associated with early postpartum depressive symptoms [38]. Lack of support has been seen to be a key risk factor in postpartum depression in Korean society [39]. Among Chinese women, marital dissatisfaction, antenatal life events, past depression, late antenatal depressive symptoms and lack of social support predicted postpartum affective morbidity [30]. In a study conducted in Pakistan it has found that depressed mothers were significantly more disabled, had more threatening life events and poorer social and family support than non-depressed mothers [40]. In a study conducted in Israeli it has been seen that lack of social support, marital disharmony, depressive symptoms during pregnancy, history of emotional problems and prolonged infant health problems were most predictive of PPD [41]. Mothers who had a postpartum depression in Germany complained more often about having low or no support by the partner [42]. In other studies conducted in Turkey it has seen that EPDS mean score was related to family support during the postpartum period [11,13].

The association between social support and PPD is a common finding of most of the studies in the literature but there are only a few studies which have assessed social support by using a scale [2,11,24,28,43] and which have assessed associations between PPD and social support by using multivariate analysis [25-29,43]. The most important difference of our study

is social support assessment method. Multidimensional Scale of Perceived Social Support has been used to assess social support and associations between PPD and social support have been analyzed by using multivariate analysis in this study. Our findings also highlight the importance of source of social support. Although depressed women's MSPSS three subscales (social support from family, social support from a significant other, social support from friends) scores were significantly lower than those in non-depressed women in the bivariate analyses; social support from family and from a significant other predict postpartum depression but not social support from friends in logistic regression analysis. In the study conducted in Pakistani women [25] it has shown that three sources of social support was associated with postpartum depression in bivariate analysis. There are only a few studies which have systematically examined the effect of different sources of social support to postpartum depression. Because of this, more research is required to find out the relationship between different sources of social support and PPD.

Although most of the studies indicates that postpartum depression appears to be related to social support. The findings of Chaaya et al. [26] and Leoung, Martinson and Arthur [44] constitute an exception to this conclusion. In the study of Chaaya et al. conducted in Lebanon it has been observed that lack of social support and lifetime depression were not significant predictors in the multivariate analysis, although they were significant in the bivariate analyses [26]. But it might be a result of measuring social support method. Chaayaa et al. has taken social support as "to have social support from more than one person" [26].

Although there is a wealth of literature that highlights the relationship between social support and depression, there is a need to find out possible mediating or moderating factors to the associations between social support and depression. For example personality features like self-esteem and locus of control may act as a mediating or moderating factor. In fact the findings of Josefsson & Sydsjö have shown that the women with postpartum depression differ in personality from healthy postpartum women and from healthy non-postpartum controls [45]. Verkerk, Denollet, Van Heck, Van Son and Pop have also shown that high neuroticism in combination with high introversion was a stable predictor of clinical depression across the whole first year postpartum [46].

On the other hand when interpreting the associations between social support and depression, the effect of depression on perceiving social support should also be considered. Perception of social support may be different from the actual availability of social support in depressed patients. Depressed patients could not utilize social support more efficiently than non-depressed persons. Perceived social support represents cognitive component of social support and depression-related negative cognitions may affect this component. So it is critical for clinicians to understand that it is the perception of lack of social supports from family and significant others that predicts PPD.

In our study, besides social support, it has shown smoking and pregnancy number predicted postpartum depression but baby's gender, family type, perceived family income, educational level, occupation, having a health insurance, mode of delivery, antenatal care and unwanted pregnancy did not. Past history of psychopathology, psychological disturbance during pregnancy, poor marital relationship, stressful life events, self esteem, childcare stress, marital relationship, infant temperament, marital status, socioeconomic status and unplanned/unwanted pregnancy have been identified as predictors of PPD in two metaanalytic studies [3,20]. But in a the study conducted in Beirut and Beka'a Valley it has shown that lack of social support and prenatal depression were significantly associated with

PPD in both areas, whereas stressful life events, lifetime depression, vaginal delivery, little education, unemployment and chronic health problems were significantly related to PPD in one of the areas. These findings suggest that the effects of predictive factors may be complex and aspects of these effects may vary with cultural features [25].

This study has some limitations. The study population does not represent general population. All the data are self reported and depression has been determined by using a screening test which could not give a definitive diagnosis of depression.

5. CONCLUSION

In conclusion, our study confirms that postpartum depression is a public health problem in Turkey as in other parts of world and social support from family and a significant other is associated with postpartum depression. This finding highlights that there is a need to address this unmet need in planning interventions. But prevalence rate of PPD and differential effects of risk factors on PPD vary substantially among studies and this should be taken into consideration when planning interventions for postpartum depression.

CONSENT

All participants were informed that their participation in this study is voluntary and they are allowed to withdraw at any time. Further, they assured that their identities will not be revealed; only aggregate data was reported.

ETHICAL APPROVAL

All authors hereby declare that this study has been examined and approved by the appropriate ethics committees and has therefore been performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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