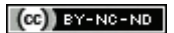


# Factors Related to Postpartum Depression in Mothers Referred to Kermanshah Health Centers, Iran

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## ABSTRACT

**Introduction:** Postpartum Depression (PPD) is one of the major health problems that have adverse effects on mother and family and can be related to many factors. It is one of the most common psychiatric disorders and a common problem of human life.

**Aim:** To determine the predisposing factors of PPD.

**Materials and Methods:** This was a descriptive-analytical and cross-sectional study in which 242 women referred to Kermanshah health centres (two months after delivery), were selected by cluster random sampling. Data were collected using a standard Edinburgh Depression Inventory. Data were analysed by SPSS software using chi-square, t-test and ANOVA.

**Results:** The average age of study participants was 29 years. A total of 11.3% of mothers had moderate depression and 44.8%

had severe depression. There was a statistically significant relationship between the level of depression with spouse support, maternal support, desire and unwanted pregnancy ( $p$ -value  $<0.05$ ). On the other hand, there was no significant relationship between level of depression and type of delivery; mother's education and gender of infant ( $p$ -value  $>0.05$ ). The prevalence of depression was also higher in those with unwanted pregnancy ( $p$ -value  $<0.05$ ).

**Conclusion:** More than half of the study population had severe depression. Spouse support in reducing PPD can be effective. So it is necessary to educate their spouses about the important issue of PPD.

**Keywords:** Infant, Maternal health, Pregnancy, Spouse support

## INTRODUCTION

Depression is a mood disorder associated with feelings of hopelessness, inadequacy, guilt, fear, and worthiness [1]. Depression is one of the most common psychiatric disorders and a common problem of human life today and is found in almost all countries and cultures. Depression is one of the most common mental illnesses in different communities and is predicted to be the second most common post-cardiovascular disease in 2020, accounting for 15% of total disease [2]. PPD can be caused by physiological or hormonal disorders or caused by stress during pregnancy. It can also be due to the fatigue caused by lack of sleep during this time, the mother's mental health care of the newborn child, the fear of losing attraction to the spouse, or the continued maternal depression [3].

PPD may include severe feelings of loneliness, irritability, fear and mistrust, and may be accompanied by thoughts such as suicide, and may occur within two to six weeks after delivery. The mother's behaviour, in this case, is quite variable for her child. The mother may be completely absent from her mother's duties [4].

Depressed women tend to exaggerate their problems. So their families are likely to reduce their interaction with them because of this behaviour. And this, in the form of a faulty cycle, increases the stress on the depressed mother [5].

In general, the prevalence of PPD has been reported at 15% to 10% [6] but there is evidence that Asian women are at greater risk. Its prevalence has also been reported in 27.3% of Iran [7].

Studies show a high percentage of PPD among new mothers. Factors mentioned in these studies were maternal unemployment, poor pre-pregnancy mental health, poverty, domestic violence. The solutions to this problem are screening and educating pregnant women [8-11].

Given the importance of PPD and its impact on important aspects of personal and social life, this study aimed to investigate the factors associated with PPD in mothers referred to health centres.

## MATERIALS AND METHODS

The present study was a descriptive-analytical study that was done in a cross-sectional manner from January 2016 to June 2016. Cluster sampling was performed among 32 health centres in Kermanshah city, out of which 7 were selected. Inclusion criteria in this study were; should hold Iranian citizenship, having completed 2 months postpartum and age range 17-35 years. The exclusion criteria were: unwillingness to continue cooperating in the research, incomplete information of the patient's file and lack of proper completion of the questionnaire. The present study was conducted in accordance to the Declaration of Helsinki.

The sample size in this study was 300 people with a 95% confidence level. Data were collected using the Edinburgh Postpartum Depression Scale (EPDS) [12]. The questionnaire consists of 10 questions on a 4-point scale that assess the mental state of individuals in the past 7 days. Each question has a score of 0-3, a score of less than 12 indicates a No depression and no symptoms of depression, a score of 12-13 indicates Minor depression and a score of 14-30 with Major depression.

## STATISTICAL ANALYSIS

Chi-square test was used to analyse qualitative variables and T-test and ANOVA were used for quantitative variables. The software applications used in this study were SPSS 23 and the significance level of 0.05 was considered.

## RESULTS

The study population was 242. [Table/Fig-1] shows the level of education, occupation, type of delivery, type of pregnancy, desire or unwanted pregnancy, gender of the infant. The table shows that the data are well normalised and the demographic information of the audience is not significantly correlated.

Variable	Number and percentage of abundance	
Degree	Diploma	94 (39%)
	Bachelor of science	96 (36%)
	Postgraduate	52 (21%)
Job	Employed	23 (9.5%)
	Housewife	219 (90.5%)
Type of delivery	Natural	111 (47%)
	Cesarean section	131 (54%)
Desire to get pregnant	Planned	212 (88%)
	Unplanned	30 (12%)
Gender of the baby	Girl	113 (47%)
	Boy	129 (53%)
Spouse support	Have support	202 (83%)
	Do not have support	40 (17%)
Mother support	Have support	201 (84%)
	Do not have support	41 (17%)
Severity of depression in pregnant mothers	No depression	105 (44%)
	Minor depression	30 (11%)
	Major depression	107 (44%)

**[Table/Fig-1]:** Frequency distribution of the studied units according to the variables studied.

The level of depression in the study participants is shown in [Table/Fig-2]. The results showed that 44.8% of women in the study suffered from major depression.

Variables		No depression number (%)	Minor depression number (%)	Major depression number (%)	p-value
Degree	Diploma	35 (37.2)	10 (10.6)	49 (52.2)	0.33
	Bachelor of science	40 (41.6)	12 (12.5)	44 (45.9)	
	Postgraduate	30 (57.6)	8 (15.3)	14 (27.1)	
Job	Employed	10 (43.7)	5 (21.7)	8 (34.6)	0.061
	Housewife	95 (43.4)	25 (11.4)	99 (45.2)	
Type of delivery	Natural	55 (49.5)	12 (10.8)	44 (39.7)	0.27
	Cesarean section	50 (38.1)	18 (13.7)	63 (48.2)	
Desire to get pregnant	planned	101 (47.7)	22 (10.4)	89 (41.9)	<0.05
	Unplanned	4 (13.4)	8 (26.6)	18 (60)	
Gender of the baby	Boy	75 (58.1)	12 (9.4)	42 (32.5)	0.353
	Girl	30 (26.5)	18 (15.9)	65 (57.6)	
Spouse support	Have support	104 (51.4)	29 (14.4)	69 (34.2)	<0.05
	Don't have support	1 (2.5)	1 (2.5)	38 (95)	
Mother support	Have support	101 (50.3)	28 (13.9)	72 (35.8)	<0.05
	Don't have support	4 (9.7)	2 (4.8)	35 (85.5)	

**[Table/Fig-2]:** Frequency distribution of the variables and the relationship between research variables and degrees of depression.

To investigate the relationship between the level of depression and variables such as maternal education, occupation of the study participants, type of delivery, desire or unwanted pregnancy, neonatal gender, spouse support and maternal support, chi-square test was used.

The results showed that there was a significant relationship between the level of depression and support of spouse and mother ( $p$ -value <0.05). Participants who lacked the support of their spouses and mothers were more likely to suffer from major depression that is, this support can reduce the risk of depression. On the other hand, there was a statistically significant difference between the scores of those who had spouse support and those who had mother support compared to those who did not. Significant correlation was found

between demand pregnancy and unwanted pregnancy and the rate of depression in pregnant mothers ( $p$ -value <0.05). Mothers with unwanted pregnancies suffered from more depression.

## DISCUSSION

The results showed that there was no significant relationship between maternal education and PPD. This is different from the research results in France [13]. Lifestyle and the way mothers deal with depression in this area seem to be more effective than having a college education, (as a college degree may only increase one's knowledge). And higher levels of academic literacy cannot lead to increased awareness of PPD.

The results showed that there is a significant relationship between spouse and mother support and PPD. This is consistent with the results of studies from other countries [14-17]. With regard to maternal support, Evans M et al., say that women tend to spend postpartum time with their family and receive support. And also be supported by the spouse's family [18]. The findings of a study in Turkey showed that there was a significant relationship between maternal fatigue in the first week after delivery and depression during this period [19].

Findings showed that there was no significant relationship between gender of the infant and PPD. These results were in line with the results of studies in France [13]. And it is consistent with the results of the studies from Germany and Greece [20,21].

According to the research findings, there is no significant relationship between type of delivery and PPD, which is consistent with the results of the studies from Turkey and Norway [22,23] but does not correlate with the results of other studies from Iran and the reasons for the different results can be attributed to the long evaluation period of those studies versus the short evaluation period of this research [24,25].

There was also a significant relationship between desire and unwanted pregnancy with PPD. This is in line with the results of the studies from USA, Tunisia, Australia and Ethiopia [26-29] but contradictory to other studies from Iran. One of the possible reasons for the inconsistency is that the studies mentioned have evaluated longer periods and that in most of them only moderate depression has been assessed [30-32].

As an unwanted pregnancy, according to Dennis CL et al., leads to the child's rejection and duality, leading to depression itself [33]. It is recommended that nurses and midwives at mothers' health centres teach mothers about the symptoms of depression and how to deal with it.

## Limitation(s)

Access to all of the health centres was virtually impossible because of their large numbers of clients and many pregnant mothers did not have an address, so the authors had to select some of the centres that had the largest number of referrals and all had complete records.

## CONCLUSION(S)

The study found that depression was high among the study population. Given the considerable prevalence of PPD and its serious risks to maternal, child and family health, special attention should be paid to the planning of prenatal and postnatal care as well as screening for mental disorders, especially at high risk groups. It should also emphasise the protective and influential role of family support on education and counselling of families, especially spouses.

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## REFERENCES

- [1] Doktorchik C, Patten S, Eastwood C, Peng M, Chen G, Beck CA, et al. Validation of a case definition for depression in administrative data against primary chart data as a reference standard. *BMC Psychiatry*. 2019;19(1):9.
- [2] Baspure S, Jagannathan A, Kumar S, Varambally S, Thirthalli J, Venkatasubramanian G, et al. Barriers to yoga therapy as an add-on treatment for schizophrenia in India. *International Journal of Yoga*. 2012;5(1):70.
- [3] Schiller CE, Meltzer-Brody S, Rubinow DR. The role of reproductive hormones in postpartum depression. *CNS Spectrums*. 2015;20(1):48-59.
- [4] Noble RE. Depression in women. *Metabolism*. 2005;54(5):49-52.
- [5] McKinney ES, James SR, Murray SS, Nelson K, Ashwill J. *Maternal-child nursing-e-book*: Elsevier Health Sciences. 2017:53-50. ISBN: 9780323401708.
- [6] Bloch M, Rotenberg N, Koren D, Klein E. Risk factors for early postpartum depressive symptoms. *General Hospital Psychiatry*. 2006;28(1):03-08.
- [7] Werrett J, Clifford C. Validation of the Punjabi version of the Edinburgh postnatal depression scale (EPDS). *International journal of nursing studies*. 2006;43(2):227-36.
- [8] Park JH, Karmaus W, Zhang H. Prevalence of and risk factors for depressive symptoms in Korean women throughout pregnancy and in postpartum period. *Asian Nursing Research*. 2015;9(3):219-25.
- [9] Shakeel N, Eberhard-Gran M, Sletner L, Slinning K, Martinsen EW, Holme I, et al. A prospective cohort study of depression in pregnancy, prevalence and risk factors in a multi-ethnic population. *BMC Pregnancy and Childbirth*. 2015;15(1):5.
- [10] Silverman ME, Reichenberg A, Savitz DA, Cnattingius S, Lichtenstein P, Hultman CM, et al. The risk factors for postpartum depression: A population-based study. *Depression and Anxiety*. 2017;34(2):178-87.
- [11] Marcus SM. Depression during pregnancy: Rates, risks and consequences. *Journal of Population Therapeutics and Clinical Pharmacology*. 2009;16(1):22-15.
- [12] Petrozzi A, Gagliardi L. Anxious and depressive components of Edinburgh Postnatal Depression Scale in maternal postpartum psychological problems. *Journal of Perinatal Medicine*. 2013;41(4):343-48.
- [13] De Tyche C, Briançon S, Ligezolo J, Spitz E, Kabuth B, De Luigi V, et al. Quality of life, postnatal depression and baby gender. *Journal of Clinical Nursing*. 2008;17(3):312-22.
- [14] Yang JW, Jung IS. Convergence effect of spouse's support on postpartum depression and self-efficacy in primipara. *Journal of the Korea Convergence Society*. 2018;9(1):171-80.
- [15] Jung IS. Effects of husband's help on the mother's postpartum depression and self-efficacy: A pilot study. *Journal of Convergence for Information Technology*. 2017;7(6):45-52.
- [16] Don BP, Mickelson KD. Paternal postpartum depression: The role of maternal postpartum depression, spousal support, and relationship satisfaction. *Couple and Family Psychology: Research and Practice*. 2012;1(4):323.
- [17] Gremigni P, Mariani L, Marracino V, Tranquilli AL, Turi A. Partner support and postpartum depressive symptoms. *Journal of Psychosomatic Obstetrics & Gynecology*. 2011;32(3):135-40.
- [18] Evans M, Donelle L, Hume-Loveland L. Social support and online postpartum depression discussion groups: A content analysis. *Patient Education and Counseling*. 2012;87(3):405-10.
- [19] Ekuklu G, Tokuc B, Eskiocak M, Berberoglu U, Saltik A. Prevalence of postpartum depression in Edirne, Turkey, and related factors. *Journal of Reproductive Medicine*. 2004;49(11):908-14.
- [20] Sylvén SM, Papadopoulos FC, Mpaazakidis V, Ekselius L, Sundström-Poromaa I, Skalkidou A. Newborn gender as a predictor of postpartum mood disturbances in a sample of Swedish women. *Archives of Women's Mental Health*. 2011;14(3):195-201.
- [21] Sidor A, Kunz E, Schweyer D, Eickhorst A, Cierpka M. Links between maternal postpartum depressive symptoms, maternal distress, infant gender and sensitivity in a high-risk population. *Child and Adolescent Psychiatry and Mental Health*. 2011;5(1):7.
- [22] Goker A, Yanikkerem E, Demet MM, Dikayak S, Yildirim Y, Koyuncu FM. Postpartum depression: Is mode of delivery a risk factor? *ISRN Obstetrics And Gynecology*. 2012;2012:616759. DOI: 10.5402/2012/616759.
- [23] Adams S, Eberhard-Gran M, Sandvik Å, Eskild A. Mode of delivery and postpartum emotional distress: a cohort study of 55 814 women. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2012;119(3):298-305.
- [24] Dolatian M, Maziar P, Alavi-Majid H, Yazdgerdi M. The relationship between mode of delivery and postpartum depression. *Journal of Reproduction and Infertility*. 2006;7(328):260-68.
- [25] Lashkaripour K, Bakhshani NM, Hokmabadi S, Sajjadi SAR, Safarzadeh SA. Postpartum depression and related factors: A 4.5 months study. 2012.
- [26] Mercier RJ, Garrett J, Thorp J, Siega-Riz AM. Pregnancy intention and postpartum depression: secondary data analysis from a prospective cohort. *BJOG: An International Journal of Obstetrics & Gynaecology*. 2013;120(9):1116-22.
- [27] Bahrini L, Ouanes S, Ghachem R. Inflammatory profile in depression and associated clinical and sociodemographic features in a Middle-Eastern North-African population. *Journal of Affective Disorders*. 2016;198:122-26.
- [28] Abajobir AA, Maravilla JC, Alati R, Najman JM. A systematic review and meta-analysis of the association between unintended pregnancy and perinatal depression. *Journal of Affective Disorders*. 2016;192:56-63.
- [29] Dibaba Y, Fantahun M, Hindin MJ. The association of unwanted pregnancy and social support with depressive symptoms in pregnancy: Evidence from rural Southwestern Ethiopia. *BMC Pregnancy and Childbirth*. 2013;13(1):135.
- [30] Motaghi M. The effect of physical exercise on mild postpartum depression and related factors among women referring to kashan health centers, 2011. *The Journal of Urmia Nursing and Midwifery Faculty*. 2013;11(5):363-68.
- [31] Nejad AG, Khobryari F, FF P. Prevalence of postpartum depression in Kerman. *Quarterly Journal of Mentality & Behaviour*. 1999;5(1):30-24.
- [32] Khorramirad A, Lotfi MM, Bidgoli AS. Prevalence of postpartum depression and related factors in Qom. *Pejouhandeh*. 2010;15(2):66-62.
- [33] Dennis CL, Janssen PA, Singer J. Identifying women at-risk for postpartum depression in the immediate postpartum period. *Acta Psychiatrica Scandinavica*. 2004;110(5):338-46.

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