

## **Relationship between Women's Quality of Life and Postpartum Depression**

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**ABSTRACT**— The current study was performed to assess the relationship between women's quality of life and postpartum depression among women attending to Gachsaran health care centers in 2013. In this prospective cohort study, 350 postpartum women with and without PPD were recruited. Data were collected at two phases; fourth week and sixteenth week postpartum. According to the Edinburg Postnatal Depression Scale, a score of 10 or more was considered as PPD. Quality of life was assessed using SF-36 questionnaire. Mean scores of SF-36 were compared between postpartum depressed women and non-depressed women at fourth week and sixteenth week postpartum and within groups. Data analysis was conducted using the t-test, Mann-Whitney, repeated measures ANOVA, and Chi square. The findings showed that there were significant differences in 6 out of 8 mean scores of quality of life dimensions including bodily pain, general health, social functioning, role-emotional, vitality, and mental wellbeing, between postpartum depressed women and non-depressed women. Comparison of mean scores of quality of life dimensions from fourth week to sixteenth week postpartum revealed that postpartum depressed women scored lower on all of quality of life dimensions than non-depressed women. Despite the increased scores of quality of life in depressed women at sixteenth week postpartum, differences were not statistically significant except bodily pain. Conclusion: Postpartum depression is associated with poor quality of life. Thus, postpartum depression screening during routine postnatal care and efforts to improve women's quality of life is important.

**KEYWORDS:** Postpartum depression, Quality of life, Women's health status.

### **Introduction**

Postpartum depression is a major public health problem and a common clinical problem following childbirth. It is predicted that by 2020, depression will become the second leading cause of disability worldwide (Sankapithilu, Nagaraj, Bhat Raveesh Nagaraja, 2010). Women, especially during the first year postpartum are at risk mental disorders. In fact, a set of common postpartum symptoms such as fatigue, breast discomfort, intestinal problems, bleeding, and pain in the perineum, are associated with emotional problems, including postpartum depression (Webster, Nicholas, Velacott, Cridland, Fawcett, 2011). In addition to postpartum neuro endocrine change, demographic factors (such as maternal age, education, low socioeconomic status), may also be associated with mental disorders. As well as factors such as social support, history of mental problems, the number of children, unwanted pregnancies, or high-risk pregnancy can increase the risk of postpartum mental disorders (Aktas, Terzioglu, 2013). In the first three months after delivery, about 14.5 percent of women may experience mild or severe depression (Zubaran, Foresti, 2011) and 15 to 20 percent of women had reported an attack of depression 12 months after delivery (Darcy, Grzywacz Stephens, Leng, Clinch, Arcury, 2011). Evidence suggests that postpartum depression is common in Iran. Based on a systematic review of prevalence of postpartum depression in Iran is estimated that 28.7 percent which due to the studies is higher than other parts of the world (Veisi, Sayemir, 2011). Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) has defined the occurrence of postpartum depression as major depression that occurs in the first 4 weeks after delivery. Concurrence of occurrence five symptoms of physiological disturb and characteristic symptoms of depression that depressed mood or loss of interest to activity is at least one of them, is considered postpartum depression (Aktas, Terzioglu, 2013). This disorder is determined with depressed mood, irritability, lack of enjoyment of life, despair, anxiety, fatigue, psychomotor agitation, sleep and appetite disturbance, feelings of guilt or feelings of inadequacy, particularly in relation to the ability to take care of the baby (Da Costa, Drista, Rippen, Lowensteyn, Kalife, 2006). Postpartum depression has significant consequences, such as postpartum

weight retention, weakening the functional status, and associated somatic complaints (Darcy, Grzywacz Stephens Leng, Clinch, Arcury, 2011). This disorder affects the communication quality with her husband and children and poor interaction between mother and child which damage cognitive growth and development of the child (Poo, Espejo, Godoy, Gualda, Hernandez, 2008, Teychenne, York, 2013). Postpartum depression also increases the risk of future severe depression attacks and mood disorders at recurrence in subsequent pregnancies (Teychenne, York, 2013). Children of mothers with depression are also at risk. According to the Institute of Medicine, postpartum depression is associated with increased risk of infant mortality, adverse effects on development of children, behavior problems in adolescents and increased consumption of health care resources (AHRQ, 2013) and in these children, the possible risk of depression in adulthood is 3 to 5 times more than others (Earls, 2010). So it is necessary to perform early detection of mental and psychological disorders in mothers and their prevention in order to recover mental health of mothers in the postpartum (Haruna, Watanabe, Matsuzaki, 2013). Today, Quality of life related to health, has become an important outcome when evaluating the impact of certain items and disease. The assessment of quality of life related to health is very important for policy makers and health care providers (Zubaran, Foresti, Schumacher, Thorell, Muller, Amoretti, 2009). According to WHO, life quality include the human perception of life status in value and cultural system of their living place which formed in relation to the targets, expectations, needs and beliefs (Zubaran, Foresti, 2011). Since postpartum physical, mental and psychological changes are related to the wider concept of health quality of life (Sadat, Taebi, Saberi, Kalarhoudi, 2013 Webster, Nicholas, Velacott, Cridland, Fawcett, 2011) and depressed women experience more emotional and physical problems, it seems that postpartum depression is associated with quality of life (Zubaran, Foresti, 2011, Teychenne, York, 2013, Ay-Woan, Sarah, Lyinn, Tsyr-Jang, Ping-Chuan, 2006). In this regard, Tychey and colleagues in a study to determine the baby's gender effect on postpartum depression and quality of life, were found having a son is associated with postpartum depression, which significantly reduces the quality of life of women (De Tychey, Briançon, Lighezzolo, 2008). Another study also reported that the rate of quality of life measures significantly is lower in women with postpartum depression than non-depressed women (Webster, Nicholas, Velacott, Cridland, Fawcett, 2011). Despite the negative effects of postpartum depression on mother-child interactions have been extensively studied, our knowledge of the effects of these disorders on general health and maternal behavior is limited (Zubaran, Foresti, 2011). Longitudinal studies have been investigated the relationship between postpartum problems, especially postpartum depression and health status and quality of life of mothers (Webster, Nicholas Velacott, Cridland, Fawcett, 2011). Despite allegedly postpartum depression prevalence is similar in different countries, but to a large extent be influenced by cultural factors particularly in certain stages of life. So, from the perspective of anthropology is considered a culture-bound syndrome and major changes in family structure may lead to postpartum depression. As well as the response to symptoms of postpartum depression and its impact on the lives of people is different in different cultures (Zubaran, Schumacher, Roxo, Foresti, 2010). Therefore, due to cultural differences or restricting the information in this field, this study aimed to determine the relationship between quality of life for women with postpartum depression who referred to health centers in Gachsaran.

### **Research Methodology**

This is prospective cohort study. The study population includes 350 women who meet the inclusion criteria to the study and referred to health centers in Gachsaran after delivery. Inclusion criteria included women 18 to 35 years old, Iran, literate, possess and singleton live births, and no history of mental and physical diseases. Medical conditions, complications of pregnancy, a history of depression, infertility, stillbirth dystocia, drug use, and having family problems were composed the exclusion criteria. The sampling was conducted in proportion method. So that the first required sample volume were determined in proportion to the number of women referred to health centers in Gachsaran. Then available sampling was done in each center. Data collection tools included demographic information, Edinburgh Postnatal Depression Scale, SF-36 questionnaire to study the life quality. Edinburgh Postpartum depression Scale includes 10 questions about the overall ratings of depression and total overall ratings is from zero to 30. According to the questionnaire, 10 score and above is considered as depressed person. SF-36 questionnaire includes eight domains of physical functioning, role limitations due to physical problems, physical pain, general health, happiness and vitality, social functioning, role limitations due to the emotional problems, and emotional health and the overall scores in each area is between zero and 100. Edinburgh Postpartum Depression Scale and content validity of the SF-36 questionnaire in Iran is determined by the researchers (Montazeri, Torkan, Omidvari, 2007, Montazeri, Goshtasebi, Vahdani, Gandek, 2005). In this study, the reliability of the SF-36 Questionnaire and the Edinburgh Postnatal Depression Scale were obtained with test-retest method as .89 and .84 respectively. After obtaining ethical permission and consent of the participants, 364 people were recruited in the first stage of sampling, but in the second phase, 14 subjects were excluded. Finally, statistical analysis was conducted on 350 women. Data were collected at two phases; fourth week and sixteenth week postpartum. Questionnaires in two stages were completed by participants four weeks and 16 weeks after delivery. Information was analyzed using SPSS SPSS 16 software, Mann-Whitney, chi-square test, analysis of variance with repeated measures and significance level of less than 5%.

**Findings**

In this study, 24.86 percent four weeks Postpartum and 22.58 percent 16 weeks post-partum were placed in the depressed group. The mean age of depressed women is  $23.7 \pm 3.9$  years and non-depressed women  $24.2 \pm 4.1$  years. Most depressed and non-depressed women had completed high school education.

**Table 1:** demographic characterization of depressed and non-depressed women

Sig level	Depressed N= 87	Non-depressed N= 263	Variables
P=0/198	41(%47/12) 46(%52/88)	126(%47/9) 137(%52/1)	Mother age (year) 18-25 25-35
P=0/548	47(%54/0) 23(%26/4) 11(%12/6) 6(%6/9)	127(%48/3) 86(%32/7) 38(%14/4) 12(%4/6)	Delivery number 1 2 3 More than 3
P=0/126	52(%59/8) 35(%40/2)	163(%61/9) 100(%38/1)	Type of delivery normal Caesarean
P=0/093	5(%5/7) 16(%18/4) 51(%58/6) 15(%17/2)	11(%4/2) 34(%12/9) 156(%59/3) 62(%23/6)	Maternal education Primary school Secondary school High school Higher diploma
P=0/461	10(%11/4) 77(%88/6)	26(%9/9) 237(%90/1)	Mother's job Employed housewife

In Table 1, some demographic variables of the two groups are presented. According to the chi-square test, two groups were not significantly different in terms of age, education, occupation, number of delivery, and income ( $P>0.05$ ). It should be noted that the variables of baby gender, unwanted pregnancies and spousal support were controlled and adjusted as mediating variable.

**Table 2:** Average scores for quality of life in depressed and non-depressed women at week 4 postpartum

Sig Level	Depressed 87N=	Non- depressed 263N=	Dimensions of Quality of life
0/083	82/61±13/17	85/23±12/94	Physical performance
0/158	55/93±20/84	59/68±21/26	Role- Physical
0/001	54/12±22/35	67/85±19/63	Physical pain
0/001	61/81±18/93	70/68±18/59	general health
0/001	49/83±21/56	57/45±20/62	Role - Emotional
0/001	50/85±20/32	65/93±21/28	Social Performance
0/001	54/81±20/73	62/35±22/47	Freshness and vitality
0/001	56/45±18/39	71/96±19/64	Emotional health

The findings of this study showed that in the six of the eight areas of QOL including physical pain, general health, freshness and vitality, social functioning, limitations of emotional role and mental health scores were significantly different between depressed and non-depressed women ( $p<0.001$ ) ( Table 2)

**Table 3:** Average scores for quality of life in depressed and non-depressed women at week 16 postpartum

Sig	Depressed N= 79	Non- depressed N= 217	Dimensions of Quality of life
0/091	82/86±13/54	85/92±13/21	Physical performance
0/146	56/81±20/92	59/83±21/14	Role- Physical
0/001	56/87±22/45	69/98±20/12	Physical pain
0/001	62/84±18/71	73/92±18/19	general health
0/001	51/23±21/76	61/52±21/47	Role - Emotional
0/001	52/24±20/49	66/97±21/53	Social Performance
0/001	55/24±20/61	64/81±22/46	Freshness and vitality
0/001	57/49±18/75	74/63±19/73	Emotional health

Table 3 represents average scores for quality of life in depressed and non-depressed women at week 16 postpartum

**Table 4:** Comparison of average scores for quality of life in depressed and non-depressed women at week 16 and 4 postpartum

Sig	depressed N=79		Sig	Non-depressed N=271		Dimensions of Quality of life
	Week16	Week4		Week16	Week4	
0/754	82/93±13/52	82/17±13/84	0/681	86/12±13/87	85/43±12/91	Physical performance
0/578	56/12±20/33	55/44±20/92	0/171	59/83±20/35	59/26±21/59	Role- Physical
0/043	55/67±22/19	53/69±22/53	0/025	70/28±20/44	66/94±19/32	Physical pain
0/539	62/51±18/64	61/29±18/45	0/016	74/63±18/25	71/25±18/79	general health
0/591	51/46±21/67	50/18±21/44	0/012	61/93±21/45	57/13±20/99	Role - Emotional
0/378	52/41±20/96	50/46±20/92	0/249	67/89±21/93	65/42±21/77	Social Performance
0/538	55/67±20/79	54/34±20/21	0/129	64/27±22/50	62/76±22/19	Freshness and vitality
0/346	57/84±18/12	55/89±18/56	0/042	74/10±19/62	71/88±19/45	Emotional health

Table 4 suggests the mean scores of quality of life in depressed and non-depressed women between week 4 and week 16 postpartum. Comparison the mean scores of quality of life between week 4 and week 16 post-partum indicate that quality of life scores increased in all depressed and non-depressed women. But, depressed women in all areas obtained lower scores than non-depressed women. Physical pain was not statistically significant. Although the quality of life scores at week 16 in all domains increased in depressed women. But these differences were not statistically significant, except in the area of physical pain. In contrast, the non-depressed women showed significant differences in the increase of quality of life scores in the domains of bodily pain, general health, emotional role limitations, and emotional health (Table 4).

### Conclusion

This study aimed to determine the relationship between quality of life for women with postpartum depression. These findings suggest that postpartum depression is associated with reduced physical and mental aspects of women's lives and depressed women have lower quality of life than non-depressed women. The results of this study indicate women with postpartum depression, all dimensions of life quality decreased and dimensions of physical pain, general health, emotional role limitations, social functioning, vitality and joy, and emotional health showed statistically significant decrease. These findings are consistent with previous studies that show the negative effect of depression on quality of life (Darcy, Grzywacz Stephens, Leng, Clinch, Arcury 2011; De Tychey, Briançon Lighezzolo 2008; Da Costa, Drista, Rippen, Lowensteyn, Kalife 2006). A set of common postpartum symptoms such as headaches, intestinal problems, bleeding, perineal pain, and especially fatigue and sleep disorders are associated with emotional difficulties including postpartum depression (Webster, Nicholas, Velacott, Cridland, Fawcett, 2011) and possibly these factors may reduce the physical area scores of their quality of life. In fact, significant postpartum physical, emotional and mental changes cause to a drop in the quality of life of women in this critical period (Ghodsbin, Yazdani, Jahanbin, Keshavarzi, 2012). Some studies negative effect of depression on daily activities and productivity, and their correlation with quality of life (Zubaran, Foresti, 2011). In this regard, De Tychey and colleagues performed a study of 181 French women to evaluate the effect of postpartum depression on quality of life and baby's gender effect. In this study, women with postpartum depression at all physical and mental components had lower SF-36 scores at first two months after delivery than non-depressed women (De Tychey, Briançon, Lighezzolo, 2008). Also in line with the results of this study, Da Costa and colleagues in a study that was conducted on 78 female Canadian found SF-36 scores in all dimensions, including physical and mental health components in depressed women was lower than women in the general population and even a mild form of depression also led to a significant weakening of physical dimensions of quality of life (Da Costa, Drista, Rippen, Lowensteyn, Kalife 2006). Despite the fact that in study similar to this study, a score higher than 10 as the Edinburgh Postnatal Depression Scale was considered. In this study, women with postpartum depression were compared with healthy women. Another study in Canada showed a significant negative correlation between depressive symptoms and lower scores on mental health units of SF-36 scale (Dennis, 2004). Evidence suggests that functional ability in patients with depression are at a lower level and they have poorer health compared to patients with other chronic illnesses. In contrast, patients with less severe depression reported higher levels of performance and satisfaction with daily activities, performance of social roles and relations. (Ay-Woan, Sarah, Lynn, Tsyr-Jang, Ping-Chuan, 2006). Results of Sadat and colleagues study shown the effects of postpartum depression on quality of life of women that 7 of the 8 domains of QOL (except physical role limitations) between depressed and non-depressed women had statistically significant difference (Sadat, Khakbazan, Abedzadeh-Kalahroudi Kafaei Atrian, Karimian 2014). In the present study, the mean scores for quality of life in all depressed and non-depressed women between weeks 4 to 16 weeks postpartum were increased, but quality of life scores in depressed women in all aspects was lower than non-depressed women, and was significant only in the area of physical pain. Bahrami in a study on 120 women who had their first delivery in the city of Dezful found post-partum depression scores of women at 12-14 weeks post-partum was significantly lower than the average in 6-

8 weeks post-partum, and scores of different dimensions of quality of life in weeks 12-14 compared to 6-8 weeks postpartum were increased in all areas (Bahrami, Bahrami, 2011). Also in Figueiredo & Conde study, women were reported better mental performance during 3 months postpartum. But the study Darcy and colleagues that the quality of women's life in the months 8, 12, and 16 after postpartum were investigated, the reduced quality of life in physical health domain was reported in depressed women (Darcy, Grzywacz, Stephens Leng, Clinch, Arcury, 2011). Longitudinal studies on the health of the mothers postpartum shown the maternal physical and emotional health problems may continue for up to 12 months postpartum. Degree of health problems postpartum and recovery period can be different due to individual and environmental factors (Youngblut, Ahn, 2007). Women postpartum encountered physical and social activity limitations but despite these challenges, most of them maintain a reasonable level of quality of life (Zubaran C, Foresti K, Schumacher, 2009) but postpartum depression interfere social activities of women and also performing individual tasks (Abbasi, Yosefi, 2014) and significant effects on their efficiency and social performance (AHRQ, 2013). In a cross-sectional study in America on women with and without postpartum depression at 6 and 26 weeks postpartum, the functional status of depressed and non-depressed women were compared. In this study, functional status was defined with personal care items, child care, care of family, career and social activities. The results of this study showed that depressed women have less personal care, family care, and social functioning than non-depressed women and depressed women achieve to functional levels before pregnancy 12 times less than others (Posmontier, 2008). Evidence shown that perceived ability to perform daily tasks and enjoy job activities are positively correlated with mental health component (Ay-Woan, Sarah, Lyinn, Tsy-Jang, Ping-Chuan, 2006) and since the depression of a mood disorder in which feelings of sadness, loss, anger, or frustration interfere with everyday life (Sankapithilu, Nagaraj, Bhat Raveesh Nagaraja, 2010) it is not unexpected that depressed women have lower scores on mental health components of quality of life. In the present study, postpartum depression identified at 24.86 per cent in week 4 postpartum was that this rate is higher than prevalence rate of 10-15 percent throughout the world (Darcy, Grzywacz Stephens, Leng, Clinch, Arcury 2011) but is consistent with some studies performed in Iran (Veisi, Sayemir, 2011). The difference in these scores can be explained due to different methodologies, especially difference of data collection period postpartum and different tools to assess depressive symptoms postpartum. The results showed that postpartum depression is associated with lower physical and mental health quality of life. However, the use of a non-proprietary tools for measuring life quality, lack of information in the quality of life of women during pregnancy (and its possible effect on the results) are considered as the limitations of this study. Due to the results of this study, given the high prevalence of postpartum depression and its adverse effects on quality of life and health of mother and child care, the routine screening postpartum seems essential. So early detection, referral and treatment of depressed mothers can help to improve the quality of life in the postpartum period. Also the mother's supportive measures by family and health care providers are very important to improve the health and quality of life post-partum.

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