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RESEARCH ARTICLE

Effects of Home Visits and Planned Education on Mothers' Postpartum Depression and Quality of Life

Havva Tel[1], Sukran Ertekin Pinar[2], Gulseren Daglar[2]

[1] Cumhuriyet University Faculty of Health Sciences, Nursing Department, Sivas, Turkey
[2] Cumhuriyet University Faculty of Health Sciences, Midwifery Department, Sivas, Turkey

Correspondence:
Sukran Ertekin Pinar
Cumhuriyet University Faculty of Health Sciences, Sivas, Turkey
E-mail: sepinar09@gmail.com

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ABSTRACT

Objective: The present study aims at determining the effects of home visits and planned training on mothers' postpartum depression and quality of life.
Materials and Methods: The sample of quasi-experimental study was consisted of 70 women. Study data were collected by means of a personal information questionnaire, the Edinburgh Postpartum Depression Scale and the World Health Organization Quality of Life Scale (WHOQOL-BREF).
Results: The average age of the mothers is between 25.50±4.78. In repeated measurements, statistically significant differences were found among quality of life scores of mothers ($p<0.05$), and their quality of life scores were found to be higher in the third measurement when compared to the first measurement. In all repeated measurements, a statistically significant negative relationship was found between depression and quality of life scores of mothers ($p<0.05$), and mothers' depression scores were seen to decrease as their quality of life scores increased. Statistically significant differences ($p<0.05$) were found among depression scores according to mothers' education level and among quality of life scores according to their number of pregnancies. University graduate mothers' depression scores decreased in the second measurement and scores were the same in the third measurement. In the third measurement, primiparous mothers' quality of life scores were found to be higher than in the first measurement.
Conclusions: The study findings demonstrate that mothers are at risk of depression during the postpartum period, postpartum depression negatively affects their quality of life, and home visits and training increase their quality of life and decrease their depression risk.
Key Words: health education, home visits, postpartum depression, quality of life

INTRODUCTION

The postpartum period, also called the fourth trimester, is the period in which the newborn becomes part of the family, the woman experiences emotional, physical and social changes, and her responsibilities increase due to the newborn [1,2]. Although pregnancy and the transition to the maternal role are important parts of a woman's life, they are problematic periods as well [3]. During the postpartum period, mothers are supposed to learn their new roles of communicating with their babies, caring for them and dealing with issues related to their babies [1,4]. While many women adapt themselves easily to the physiological, psychological and social changes emerging due to pregnancy and childbirth, some women may suffer emotional problems at different levels [5].

Women have twice as much risk of depression throughout their lifetime than men. The higher rates of depression in women are related to their reproductive periods (pregnancy, postpartum period and menopause) [6,7]. Women are at risk of significant psychiatric diseases within the first year after birth. Even if a woman has no pregnancy or birth–related complications, she may bear a risk of being exposed to psychiatric disorders particular to postpartum depression during the postpartum

period [8,9]. Bloch et al. (2006) reported that the depression rate in women increases threefold during the first five weeks postpartum [8]. Fiala et al. (2017) found prevalence of depressive symptoms as 11.8% at 6 weeks of postpartum and 10.1% at 6 months of postpartum [10]. Yaman Efe et al. (2009) showed that 23.4 percent of women in their fourth week postpartum in Turkey [11] are at risk of postpartum depression and Husain et al. (2006) showed that 36 percent of postpartum women are at risk of postpartum depression [12]. In the study of Üstgörül and Yanıkkerem (2017) in which they examined the studies conducted in Turkey, they found that postpartum depression prevalence ranged from 15.4–51.3% [13].

High levels of estrogen and progesterone throughout the pregnancy period play a role in the etiology of postpartum depression. The most important risk factors are prenatal depression and anxiety, history of previous depression or bipolar affective disorder, postpartum sadness and postpartum depression in previous births, or family history [6,14]. Postpartum depression may negatively affect a mother's abilities, her interaction with the child, the care she gives, her relationships with other family members, and her responsibilities and roles, and may decrease her quality of life [15–18]. Besides, not treating the postpartum depression can cause cognitive, behavioral and emotional negative effects for the baby [18–20]. Several studies have shown that the quality of life of mothers with postpartum depressive symptoms is lower than that of mothers without depressive symptoms [17,21].

Early diagnosis and treatment of depression experienced during the postpartum period is of great importance in ensuring mother-infant health and a healthy postpartum process. It is also important for reducing the negative impacts of depression on mother-infant health and in developing preventive mental health services. Therefore, health professionals are expected to make plans to prevent postpartum depression or to treat it by an early diagnosis, and to provide support and counselling for mothers to adapt themselves through training and home visits [22].

In postpartum period, women are discharged from hospital after 24 hours in our country. For this reason, if home visits and mother-infant follow-ups are performed effectively in the postpartum period, the depression symptoms that can be seen in this process can be detected early and the mother can get professional support [23]. Home visits consist of continuously and regularly monitoring of families who live in a particular area by healthcare professionals. Home visits include observing whether the environment in which the family lives is appropriate for health, collecting the necessary data, providing education on health, and monitoring of groups at-risk (infants and children up to 5 years old, women and women in the 15–49 age group, pregnant women and puerperants). By home visits, health professionals should protect families' health by identifying their health problems, formulate treatment plans for them if they have health problems, and increase their quality of life [24]. Thus, individuals can be evaluated more realistically in their own environment, the existing risk factors and problems can be identified, interventions can be started in the early stages, serious mental problems such as depression that can be experienced in postpartum period can be prevented. In addition, effective communication of healthcare professionals with family members ensures that the mother and other members of the family are safe [25]. In the postpartum period, many practices are carried out specific to the culture in Turkey. These practices can affect the health positively (not leaving the mother alone, taking care of the nutrition etc.) and sometimes affect the life negatively (not breastfeeding the baby for three prayer times, not giving the colostrum to the baby). Therefore, it is important for health professionals to evaluate women in the cultural environment they live in and in the home environment [14].

Although there have been several studies on postpartum depression [3,11,26–28], there is a gap in the literature concerning studies examining mothers' postpartum depression and home visits during the postpartum period. This study aims at determining the effects of home visits and planned training on mothers' postpartum depression and quality of life.

MATERIALS AND METHODS

Sample and setting

The study was conducted as pre-and post-testing and as quasi-experimental between November 1, 2010 and March 1, 2012. The study sample consisted of 82 mothers who resided in a city Centre, who had experienced a healthy pregnancy, who delivered a healthy newborn either by vaginal delivery or Caesarean section, who had no health problems during the early postpartum period, and who agreed to participate in the study. For all power calculations, we set alpha = 0.05, beta = 0.20, 1-β= 0.80 and p = 0.80823. The study included 82 mothers. Twelve mothers left the study for reasons such as not accepting home visits, not sparing the time for them, having different chores at visit times and moving to different cities. The study was completed with 70 mothers (35 primiparous, 35 multiparous).

Data collection

Study data were collected by means of a personal information questionnaire, the Edinburgh Postpartum Depression Scale, and the World Health Organization Quality of Life Scale (WHOQOL-BREF).

The personal information questionnaire was developed through a literature review and it included 24 items questioning the mother's socio-demographic characteristics, pregnancy, labor and postpartum period [23,28,29].

The Edinburgh Postpartum Depression Scale (EPDS) was developed by Cox et al. (1987) [30] and adapted to Turkish by

Engindeniz et al. (1996) [31]. The scale aims at assessing women's postpartum depression levels and consists of ten items rated on a four-point Likert scale ranging from 0 to 3. The lowest and highest obtainable scores from the scale are 0 and 30 respectively. In evaluation, while the first, second and fourth items are scored as 0, 1, 2 and 3, the third, fifth, sixth, seventh, eighth, ninth and tenth items are scored inversely as 3, 2, 1 and 0. The cut-off point of the scale is 12/13. Scores over 12/13 indicate the presence of depression risk. The Cronbach's alpha coefficient of the original scale was found to be 0.79 [31].

The World Health Organization Quality of Life Scale (WHOQOL-BREF), developed by the World Health Organization, was used in the study. This scale consists of 27 items and has a five-point rating system. It is evaluated as 1 = very bad, 2 = slightly bad, 3 = neither good nor bad, 4 = quite good and 5 = very good. WHOQOL-BREF includes physical, mental, social, environmental and national environmental domains. Possible obtainable scores from the subscale range from 0 to 20. As the scores increase, so does the quality of life. Eser et al. in 1999 [32] conducted the reliability and validity study of the Turkish version of the scale. In the validity and reliability study, Eser and colleagues found a Cronbach's alpha coefficient of 0.83 for the physical area, 0.66 for the psychological area, 0.53 for the social area, 0.73 for the environmental area and 0.73 for the national environmental area [32].

Procedure

We met with mothers who agreed to participate in the study before they were discharged from the hospital and also arranged home visits. *In the second week postpartum,* we met mothers at their homes and all the data collection tools were administered through face-to-face interviews *(first home visit/first measurement).* We guided mothers who were detected as carrying a risk of depression by the EPDS (mothers whose depression scores were over 13) to specialist psychiatrists and advised them to receive treatment and consultancy. During visits, we monitored mothers' treatment processes.

In the third week postpartum, we telephoned the mothers and informed them about issues they wanted to be enlightened about.

In the fourth week postpartum (second home visit), we visited mothers for the second time and gave them planned training considering the data obtained from the first home visit. Our goal in planned training is to increase the quality of life by ensuring that the mother can deal with problems both physically and emotionally related to herself and the baby. In the content of training for mothers, nutrition, sleep problems, movement, family planning methods, stress and coping with stress methods, respiration and muscle relaxation exercises are included. In the content of training for babies, topics such as bathing, gas extraction, vaccinations, thrush and rash care, weight gain, hepatitis and other diseases are included. Demonstration and question-answer methods were used in the training method and the training lasted for 30–45 minutes.

In the fifth week postpartum, we called them again and informed them about issues they wanted to be enlightened about.

In the sixth and twelfth weeks postpartum, we made *the third home visits (second measurement)* and *fourth home visits (third measurement),* respectively. In the third and fourth home visits, we received feedback from mothers on the planned training, answered their questions and informed them on issues on which they lacked knowledge. Then we re-administered the EPDS and the WHOQOL-BREF (see Figure 1). Before home visits, we telephoned mothers to make an appointment.

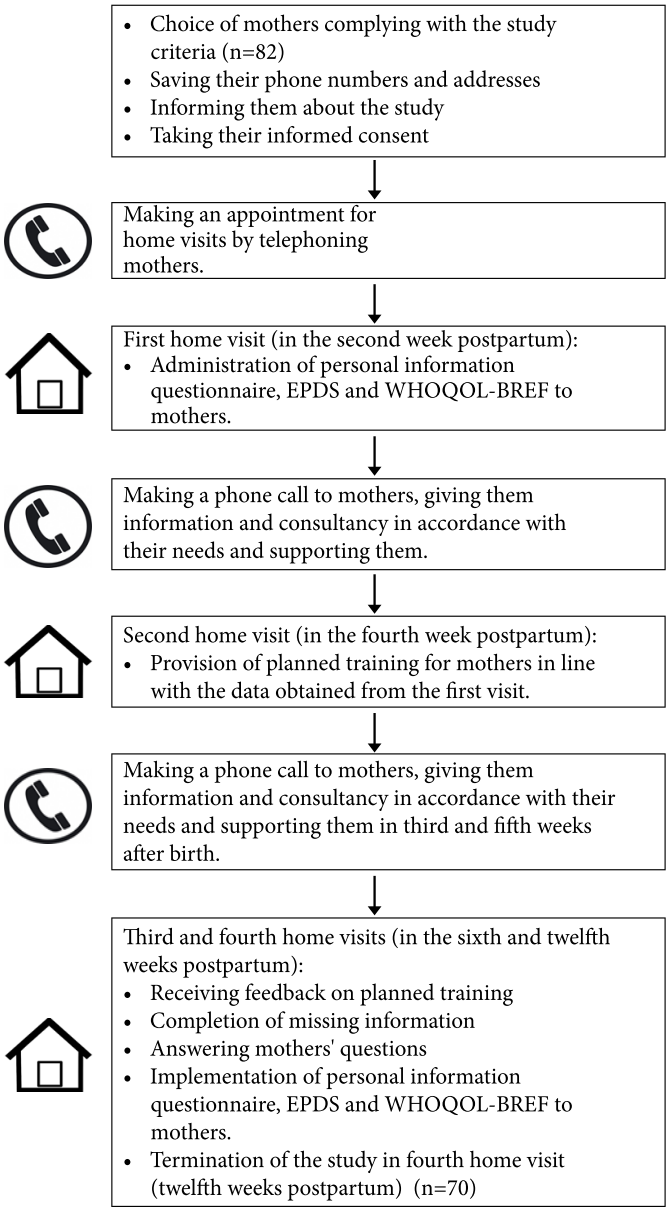

Figure 1. The flowchart of the study

Ethics approval

Written and verbal consent was obtained from the patients who participated in this study. Ethics committee approval was received for this study from the institutional ethics committee (Decision number: 10/114). The study was conducted in accordance with the Declaration of Helsinki.

Statistical analysis

Analyses were performed using the Statistical Package for Social Sciences (SPSS 14.0). During analysis of the data, the relationship between the mothers' postpartum depression and quality of life scores was evaluated using Pearson's correlation analysis. Analysis of variance (ANOVA) was used for repetitive comparison of the postpartum depression and quality of life scores and for comparison of the educational status of the participants with postpartum depression scores. In addition, t-test was used to show the relationship between the number of the pregnancies and the participants' quality of life and depression scores. Significance level was taken as $p<0.05$ for the statistical tests.

RESULTS

Socio-demographic characteristics of mothers

The study included 70 mothers aged between 16 and 37. Their average age was 25.50±4.78 years; 45.7% of the mothers were in the 25–29 age group, 47.1% were primary school graduates, 88.6% were housewives; 37.1% had been married for 2–5 years, 61.4% had nuclear families, 50% were primiparous, 50% were multiparous, 52.9% stated their socio-economic status as good, and 78.6% gave birth vaginally.

Results related to mothers' depression and quality of life

In repeated measurements, a statistically significant difference was found in the quality of life scores of mothers ($p<0.05$) and their quality of life scores were found to be higher in the third measurement when compared to the first measurement. There was no statistically significant difference in depression scores of mothers in repeated measurements ($p>0.05$), but their pre-education depression scores were found to be higher (Table 1).

In all repeated measurements, a statistically significant negative relationship was found between depression and the quality of life scores of mothers ($p<0.05$), and mothers' depression scores were seen to decrease as their quality of life scores increased (Table 2).

There was a statistically significant difference in depression scores according to mothers' education levels ($p<0.05$). University graduate mothers' depression scores decreased in the second measurement and scores were the same in the third measurement (Table 3).

There was a statistically significant difference in quality of life scores of mothers according to their number of pregnancies ($p<0.05$). In the third measurement, primiparous mothers' quality of life scores were found to be higher than in the first measurement (Table 4). There was no statistically significant difference in depression scores of mothers according to their number of pregnancies ($p>0.05$).

There was no statistically significant difference between the mothers' depression and quality of life scores in terms of such variables as age, duration of marriage, profession, family type and type of delivery ($p>0.05$).

Table 1. Depression, quality of life and information scores of mothers

	Depression scores Mean ± SD	Quality of life scores Mean ± SD
First measurement	8.51 ± 5.04	76.18 ± 10.02
Second measurement	7.55 ± 5.47	78.90 ± 10.63
Third measurement	7.72 ± 5.78	79.00 ± 9.75
F	F=1.272[a]	F=4.393[a]
p	p=0.283	**p=0.014**[b]

[a] One-way ANOVA test; [b] p significant at < 0.05;SD: Standard deviation

Table 2. Relationship between mothers' depression and their quality of life and knowledge scores

EPDS	WHOQOL-BREF (TR) First measurement	Second measurement	Third measurement
First measurement	r=−0.340[a]	r=−0.335[a]	r=−0.341[a]
	p=0.004[b]	**p=0.005**[b]	**p=0.004**[b]
Second measurement	r=−0.501[a]	r=−0.707[a]	r=−0.605[a]
	p<0.001[b]	**p<0.001**[b]	**p<0.001**[b]
Third measurement	r=−0.285[a]	r=−0.381[a]	r=−0.475[a]
	p=0.017[b]	**p=0.011**[b]	**p<0.001**[b]

[a] r= Obtained from Pearson's correlation analysis test; [b] p significant at < 0.05
EPDS: The Edinburgh Postpartum Depression Scale

Table 3. Depression scores by education status of mothers

Education status	First measurement depression scores Mean ± SD	Second measurement depression scores Mean ± SD	Third measurement depression scores Mean ± SD
Primary school	8.81 ± 4.40	9.27 ± 5.90	9.15 ± 5.33
High school	8.00 ± 5.29	7.14 ± 4.80	6.95 ± 5.39
University	8.56 ± 6.14	4.56 ± 4.03	5.81 ± 6.69
F, p	F=0.166[a], p=0.848	F=4.488[a], **p=0.015**[b]	F=2.136[a], p=0.126

[a] One-way ANOVA test; [b] p significant at < 0.05
SD: Standard deviation

Table 4. Depression and quality of life scores by the number pregnancies of mothers

	First measurement Mean ± SD	Second measurement Mean ± SD	Third measurement Mean ± SD
		Quality of life scores	
Primiparous	76.25 ± 8.94	78.74 ± 10.65	81.40 ± 8.88
Multiparous	76.11 ± 11.12	79.05 ± 10.75	76.60 ± 10.12
t, p	t=0.059[a], p=0.953	t=-0.123[a], p=0.903	t=2.108[a], **p=0.039**[b]
		Depression scores	
Primiparous	8.34±5.45	7.48±5.90	7.22±6.33
Multiparous	8.68±4:67	7.62±5.08	8.22±5.21
t, p	t=-0.282[a] p=0.778	t=-0.108[a] p=0.914	t=-0.721[a] p=0.473

[a] Independent samples t-test; [b] p significant at < 0.05; SD: Standard deviation

DISCUSSION

Postpartum depression is a common major health problem affecting the lives and life qualities of mothers, their families and their babies' development. In the present study, the quality of life scores of mothers in the postpartum period were determined to be lower at the first measurement and significantly higher at the third measurement. Home care provides some opportunities for the postpartum woman. Help from the woman's family is also an advantage in developing her skills to better take care of herself and her baby. Ensuring the physical care of the mother and the baby, identifying complications earlier, avoiding problems likely to arise, supporting the mother in difficult situations, helping the mother adapt to the maternal role and cope with problems, and reducing anxiety and stress are the main purposes of postpartum care [4]. In a study conducted with primiparous mothers, we observed an increase in mothers' knowledge scores after training them about infant care following delivery in a hospital environment [4]. As home creates a safer and a more comfortable atmosphere for women in terms of interaction and control, informing women through home visits is expected to be more effective [2]. Healthcare given to the mothers in their own homes, active participation of mothers in training, and practical and accurate solutions to mothers' problems were among the factors that contributed to an increase in the quality of life scores of mothers at the second and third measurements.

Since mothers carry a high risk of postpartum depression, supporting them through home visits, especially during the first four months postpartum, is very important [33]. Postpartum depression reduces mothers' quality of life and prevents them from fulfilling their daily activities, maternal role and responsibilities [28]. In this present study, the mothers' quality of life increased as their depression levels decreased, which was consistent with the results of other studies in the literature. Several studies have shown a highly significant relationship between depression and quality of life, and postpartum depression adversely affects the quality of life [9,34–36]. Durukan et al. (2011) showed that postpartum depression affected mothers' quality of life significantly and mothers' quality of life scores decreased as their depression scores increased [28]. On the other hand, Tamaki (2008) showed that home visits had a positive effect on women's quality of life [33] and Tezel and Gözüm (2005) showed that nursing care given at home reduced the depression risk in women diagnosed with postpartum depression [23].

In this present study, no significant correlation was found between postpartum depression and the education level of the mothers in the first measurement. In the second measurement, the university graduate mothers' depression scores were found to be significantly lower than their scores in the first measurement. This can be explained by the fact that as the woman's education level increases, she can have more effective control over her own life, make her own decisions, plan her life better, have better

social support and higher self-esteem, and she can adopt what she has learned from the training into her life more effectively. These results regarding the effects of education level on depression seem to vary from one study to another. While some studies have shown that education levels do not affect depression scores [28,33], others have found that low education level of the mother is a risk factor for postpartum depression. As depression scores decrease, mothers' education level increases [37–39].

Quality of life scores for primiparous mothers were higher in the third measurement than in the first and higher than multiparous mothers' scores. Primiparous mothers need more information about infant care and professional nursing support [40]. That the primiparous mothers' quality of life scores were low in the first measurement is probably due to a lack of experience in baby care, not knowing what to do when they encounter a problem, not feeling competent enough to take care of a baby and not feeling ready for motherhood. Yıldız and Albayrak (2014) showed that primiparous mothers had difficulty taking care of the baby, had understanding issues related to the baby's growth, development and problems, and did not feel competent enough to deal with changes in the baby and in themselves [4]. As the physical effects of birth significantly decreased after the third week postpartum, mothers could take on more responsibility for their own care and meet the infant's needs [41]. This contributed to the increase in the quality of life scores of the mothers at the third measurement. Arslan (2001) showed that counselling and education services provided during pregnancy and the postpartum period promoted the quality of life of primiparous mothers [42]. This result is similar to the findings of the present study.

The present study, which was carried out to determine the effects of home visits and planned training on mothers' postpartum depression and quality of life, showed that there is a negative significant relationship between depression level and quality of life, and that as depression scores decrease, quality of life scores increase. Mothers' quality of life scores were found to be lower in the first measurement but higher in the third; university graduate mothers' depression scores decreased in the second measurement, and primiparous mothers' quality of life scores were found to be higher in the third measurement than in the first. In line with these results, we propose the following recommendations: (a) Mothers should be evaluated in terms of postpartum depression and should be provided with information and counselling before they are discharged from the hospital. This support should also be provided during home visits during the postpartum period; (b) Mothers and families should be informed about postpartum emotional changes and about the symptoms of these changes; they should be advised to consult a healthcare provider if symptoms occur; (c) Mothers' physical, psychosocial and emotional needs should be identified after birth, and they should be supported and helped to improve their shortcomings; (d) Because postpartum depression may last up to one year in mothers, it is recommended that they should be followed and evaluated until the end of the first year after birth.

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