

Evaluation of postpartum depression and maternal attachment scale in a low socioeconomic level region: How was it affected during the Covid-19 pandemic period?

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ABSTRACT

Objective: We aimed to investigate the frequency of Postpartum Depression (PPD) and maternal attachment status in a region with a low socioeconomic level during the Covid-19 pandemic.

Materials and Methods: Two hundred women who gave birth in our hospital were evaluated on postpartum 10th day with Edinburgh Postnatal Depression Scale (EPDS) and Maternal Attachment Inventory (MBI).

Results: The mean EPDS in the group with Normal Body Mass Index (BMI) was lower than in the other two groups. Average EPDS was higher in the group with sleep problems than those without sleep problems. Women who received support from their spouses had lower EPDS scores and higher MBI scores. EPDS scores were lower in the group with a good income. MBI scores were found to be lower in people within the increased length of hospital stay.

Conclusion: In the study, we conducted with a group with a low socioeconomic level during the pandemic. We determined that PPD rates increased considerably, and this situation

Keywords: Postpartum depression, maternal attachment, COVID-19, Edinburgh

INTRODUCTION

Although pregnancy and childbirth are happy for women, this can negatively affect some women (1). Usually, patients show mild, self-limiting symptoms, but some of them may experience severe symptoms. Untreated postpartum depression (PPD) can have devastating consequences for maternal and infant health (2).

The Covid-19 pandemic has caused the development of many negative psychological effects on people. The pandemic process; has harmed people in two ways. First of all, the fear experienced due to the disease caused by the virus. Secondly, the negative psychological impact of the measures taken to reduce the effect and spread of the virus in humans can be counted (3). These effects are fear, stress, panic, paranoia, mental health disorders, anxiety, depression, impaired quality of life, sleep disorders, and insomnia (4,5).

The most common complication during pregnancy and postpartum is postpartum depression (6). Although it varies depending on the method used, it has been reported that it is generally seen in 10-15% of women who have just given birth (7). The American College of Obstetricians and Gynecologists (ACOG) recommends that obstetricians-gynecologists and other obstetric care providers screen all pregnant women at least once during pregnancy and the postpartum period using a standardized and approved tool (8).

Research Article

Received 31-03-2022

Accepted 12-04-2022

Available Online: 15-04-2022

Published 30-04-2022

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Maternal attachment is the mother-infant harmony that begins immediately after birth and develops over time. In the postpartum period, the psychological and social status of the mother might affect the mother-infant relationship. Expectant mothers who develop negative mood changes do not take care of their babies and may engage in verbal or physical negative behaviors. Thus, maternal attachment does not occur in a healthy way, and problems may occur in the baby's emotional, mental, physical, social, and language development (9).

In this study, we aimed to investigate the frequency of postpartum depression and maternal attachment status in a low socioeconomic level region during the Covid-19 pandemic.

MATERIAL and METHODS

Women who gave birth at Muş State Hospital were evaluated between 1 January 2021 and 28 February 2021. The women who came to the follow-up visit on the 10th postpartum and agreed to participate in our study voluntarily were included. Our participants were selected from people over the age of 18, Turkish speaking, literate, able to understand what they read, and fill out the questionnaire on their own. Persons with a known history of psychiatric illness during or before pregnancy were excluded from the study. Also, stillbirth, neonatal death, and participants whose babies were in neonatal intensive care tested positive for COVID-19 during pregnancy were excluded from the study. Sociodemographic characteristics and the participants' maternal and fetal outcome information were recorded during the questionnaire. The evaluation was done with Edinburgh Postpartum Depression Scale (EPDS) and Maternal Attachment Scale (MAI). Approvals from the Ministry of Health and the local ethical commission (514/194/49) were obtained. Our study was conducted with 200 women who gave birth as a cross-sectional prospective.

Patients' age, gravity, parity, height, weight, weight gained during pregnancy, medical history, previous or ongoing psychological illness and drug use, alcohol, and cigarette use, obstetric follow-up regarding any complications for fetus or mother, socioeconomic status, spousal support, sleeping disorder, type of delivery, need for hospitalization longer than 48 hours, neonatal intensive care unit admissions were recorded. None of our participants used alcohol or drugs, and people with known psychiatric disorders were also excluded from the study. Body Mass Index (BMI) was calculated by dividing weight (kg) by height (m) squared. According to BMI, were divided into three classes normal weight (<25), overweight ($25-29.9$ kg/m²), and obese (≥ 30 kg/m²). Socio-economically, according to October 2020 Turkey Statistics data, those with a monthly income below the hunger limit of 2482 TL were recorded as low income, those with a monthly income of 8085 TL above the poverty line were recorded as high, and their families with an income between 2482-8085 TL were recorded as a medium.

Edinburgh Postpartum Depression Scale (EPDS); Responses consisting of 10 items and four options, which can be evaluated in less than 5 minutes, are scored between 0-3; the lowest score that can be obtained from the scale is 0, and the highest score is 30 (9). The Turkish adaptation was made by

Engindeniz, and the threshold value of the scale was found to be 12 (10). Scores of this value and above indicate high-risk mothers for the development of postpartum depression, and further investigation is required. The reason why we preferred it in our study was the fact that sleeplessness, which is frequently seen independently of depression in the postpartum period, does not affect the outcome, as it is a scale that is evaluated quickly and easily. In our study, participants with an EPDS score of 12 and above were considered high risk. And they were referred to the psychiatry outpatient clinic for evaluation in terms of depression and expert support.

Maternal Attachment Scale (MAI); measures adaptation to motherhood and attachment to the baby with maternal emotions and behaviors. High scores indicate high attachment. The lowest score to be obtained from the scale is 26, and the highest score is 104 (11). Its Turkish adaptation was made by Kavlak (12).

While evaluating the findings obtained in the study, SPSS (Statistical Package for Social Sciences) for Windows 10.0 program was used for statistical analysis. Student's t-test was used to compare the descriptive statistical methods (mean, standard deviation, frequency) while evaluating the study data, as well as the normally distributed parameters in the comparison of quantitative data; Mann Whitney U and Kruskal Wallis tests were used for intergroup comparisons of non-normally distributed parameters. A Chi-square test was used to compare qualitative data. The results were evaluated at the 95% confidence interval, a significance level of $p < 0.05$.

RESULTS

The mean age of the puerperal group was 26.38 ± 6.07 , mean BMI was 28.06 ± 2.67 , mean weight gained during pregnancy was 12.91 ± 4.62 , mean gestational week was 38.09 ± 2.66 , mean gravida was 3.02 ± 1.91 , parity means 2.68 ± 1.67 , living child mean 2.65 ± 1.64 , Edinburgh scores mean 10.33 ± 5.52 and maternal attachment scores mean 98.91 ± 43.88 (Table 1).

When the BMI groups of the participants were examined, 12 women were in the normal weight group, 158 of them were in the overweight group, and 30 women were in the obese group. When the parity conditions are examined, 58 women are in the Primipar group, and 142 women are in the Multipar group.

Eighty-six of the participants have sleeping disorders, 174 women get support from their spouses, 4 of them smoke, 195 women do not have a chronic disease, and 5 women have a chronic disease. While the income status of 112 women is low income, 77 women are medium income, and 11 women are high income. Considering their educational status, 80 people are primary school graduates, while 34 people are university graduates. There are 49 patients who need prolonged hospitalization. When Edinburgh groups are examined, 117 people are in the low-risk group, while 83 people are in the high-risk group (Table 2).

BMI group, Parity Status, Mode of Delivery, Sleeping problem, Spousal support, Smoking, Chronic Disease, Income Status, Educational Status, Edinburgh group status, EPDS scores, and MAI scores were compared. In the group with normal BMI, the mean of EPDS was lower than the other two groups. The mean EPDS in the group with sleep problems was higher than those without sleep problems.

While the mean of EPDS is higher in those, who do not receive support from a spouse, the mean of maternal attachment in those who receive support from a spouse is higher than in those who do not receive support from a spouse. The Edinburgh average of those with good income status is lower than those with middle income.

The mean of maternal attachment of those who do not need prolonged hospitalization is higher than those who are hospitalized. The mean maternal attachment of those in the EPDS high-risk (≥ 12 points) group was lower than those in the EPDS low-risk (< 12 points) group (Table 3).

Table 1: Demographic data of the Patients

	Mean	s.s.	Median
Age	26,38	$\pm 6,07$	25,00
Height (Cm)	163,04	$\pm 5,10$	163,00
Weight (Kg)	74,52	$\pm 6,98$	74,00
BMI (Body Mass Index)	28,06	$\pm 2,67$	27,64
Weight gained during pregnancy	12,91	$\pm 4,62$	13,00
Gestational week of delivery	38,09	$\pm 2,66$	38,00
Gravity	3,02	$\pm 1,91$	3,00
Parity	2,68	$\pm 1,67$	2,00
Living Child	2,65	$\pm 1,64$	2,00
EPDS scores	10,33	$\pm 5,52$	10,00
Maternal Attachment Inventory (MAI)	98,91	$\pm 43,88$	98,00

Table 2: Descriptive statistics

		n	%
BMI (Body Mass Index)	Normal (< 25)	12	(6,00)
	Overweight (25-29,9)	158	(79,00)
	Obese (≥ 30)	30	(15,00)
Parity	Primipar	58	(29,00)
	Multipar	142	(71,00)
Type of delivery	Vaginal delivery	150	(75,00)
	Cesarean section	50	(25,00)
Sleeping disorder	No	114	(57,00)
	Yes	86	(43,00)
Spousal support	No	26	(13,00)
	Yes	174	(87,00)
Smoking	No	196	(98,00)
	Yes	4	(2,00)
Chronic disease	No	195	(97,50)
	Yes	5	(2,50)
Level of Income	Low	112	(56,00)
	Medium	77	(38,50)
	High	11	(5,50)
Level of education	Primary school graduate	80	(40,0)
	High school graduate	86	(43,00)
	University graduate or higher	34	(17,00)
Long hospital stay	No	151	(75,50)
	Yes	49	(24,50)
EPDS Group	Low risk	117	(58,50)
	High risk	83	(41,50)

Table 3: Comprasion of EPDS and MAI scores for each them

		Mean	EPDS s.s.	Median	P	Mean	MAI s.s.	Median	P
BMI (Body Mass Index)	Normal (< 25)	5,00	$\pm 3,46$	4,50		100,08	$\pm 4,10$	101,00	
	Overweight(25-29,9)	10,73	$\pm 5,37$	10,00	0,002¹	99,59	$\pm 49,21$	98,00	0,104 ¹
	Obese (≥ 30)	10,37	$\pm 6,02$	10,00		94,83	$\pm 8,79$	96,50	
Parity	Primipar	10,02	$\pm 6,05$	10,00	0,523	106,02	$\pm 80,59$	98,50	0,394
	Multipar	10,46	$\pm 5,31$	10,00		96,01	$\pm 7,96$	98,00	
Type of delivery	Vaginal delivery	10,39	$\pm 5,44$	10,00	0,797	100,13	$\pm 50,27$	98,00	0,866
	Cesarean section	10,18	$\pm 5,83$	10,00		95,24	$\pm 10,81$	98,50	
Sleeping disorder	No	8,58	$\pm 5,36$	8,50	<0,001	96,27	$\pm 8,61$	99,00	0,325
	Yes	12,66	$\pm 4,87$	13,00		102,41	$\pm 66,24$	97,50	
Spousal support	No	12,54	$\pm 5,35$	13,00	0,038	93,23	$\pm 8,41$	95,00	0,007
	Yes	10,01	$\pm 5,49$	10,00		99,76	$\pm 46,90$	99,00	
Smoking	No	10,39	$\pm 5,56$	10,00	0,265	98,86	$\pm 44,33$	98,00	0,140
	Yes	7,75	$\pm 2,50$	7,50		101,25	$\pm 3,59$	102,50	
Chronic disease	No	10,35	$\pm 5,54$	10,00	0,698	99,01	$\pm 44,44$	98,00	0,285
	Yes	9,60	$\pm 5,37$	10,00		95,00	$\pm 4,85$	94,00	
Level of Income	Low	9,62	$\pm 5,41$	10,00	0,012¹	101,42	$\pm 58,04$	98,50	0,944 ¹
	Medium	11,69	$\pm 5,58$	12,00		95,83	$\pm 8,94$	98,00	
	High	8,18	$\pm 4,53$	8,00		94,91	$\pm 12,57$	98,00	
Level of schooling	Primary school graduate	9,15	$\pm 3,72$	10,00	0,662 ¹	95,38	$\pm 8,67$	97,00	0,734 ¹
	High school graduate	9,88	$\pm 6,07$	10,00		105,99	$\pm 74,55$	99,00	
	University graduate or higher	10,93	$\pm 5,71$	10,00		95,88	$\pm 8,68$	98,00	
Long hospital stay (> 48 hour)	No	10,36	$\pm 5,53$	10,00	0,908	99,25	$\pm 50,32$	98,00	0,024
	Yes	10,24	$\pm 5,58$	10,00		97,86	$\pm 8,31$	100,00	
Edinburgh group	Low risk	6,56	$\pm 3,43$	7,00	<0,001	103,19	$\pm 56,43$	100,00	<0,001
	High risk	15,66	$\pm 2,89$	15,00		92,88	$\pm 10,26$	95,00	

DISCUSSION

The pandemic process has negatively affected the psychological state of the entire world population. In studies investigating the effect of the pandemic on anxiety, depression, and quality of life in the world, it was found that different groups were affected to different degrees (13-15). Although the incidence of PPD was found to be 10-15% in general, the rate of postpartum depression was found to be 35.5% in a group performed in Ankara and applied EPDS (16). In another study conducted in Istanbul during the pandemic period, EPDS was found to be 12% similar to the pre-pandemic period (17). In a study conducted in Italy during the quarantine period, PPD was found to be 44% (22). In our study, 41.5% were found in the risky group in terms of postpartum depression, according to EPDS. This situation can be since our participants are from a low socioeconomic group and may have been more negatively affected by the pandemic process. The fact that the group with a good income level had a significantly lower EPDS score than the other groups indicates that there may be a relationship between income status and depression. In previous studies, it has been suggested that individuals in the lower socioeconomic class have a higher incidence of mental disorders such as depression than those in the middle and upper socioeconomic class (18,19).

When we look at the literature, Although there are studies stating that there is a relationship between obesity and postpartum depression in general, there are also studies claiming that there is no relationship (20,21). In our study, consistent with the literature, it was concluded that the risk of PPD increased in mothers with an increased BMI. It has been stated that sleep health during pregnancy and postpartum may have an effect on anxiety and depression (23). In our study, EPDS scores were found to be significantly higher in expectant mothers with sleep problems.

Close environment support reduces the mother's duties and responsibilities and provides psychological relief (24). In our study, it was observed that support from the spouse both decreased the EPDS scores and increased the MAI scores, making a positive contribution to mother-infant adjustment.

Mother-infant attachment is a special relationship between mother and infant that develops over time and can be affected by many factors. Studies have shown that early skin-to-skin contact, staying in the same room with the mother and baby, and breastfeeding regularly increase the adjustment of mother and baby(25). In our study, it was observed that the MAI scores of the mothers who stayed in the hospital longer than 48 hours decreased. Reducing the length of stay in the hospital can strengthen the mother-infant relationship.

Postpartum depressive symptoms were examined, and it was found that mothers with high scores had poor adjustment to the maternal role and mother-infant adjustment (26,27). Similarly, women who had higher EPDS scores had lower MAI scores in our study too.

CONCLUSION

In the study we conducted in a region with a low socioeconomic level during the pandemic period, We determined that PPD rates were considerably increased, and this situation negatively affected maternal attachment. We think that encouraging spousal support can decrease depression scores and increase maternal attachment. By encouraging spouses and social support to mothers, depressive symptoms can be reduced. Evaluating postpartum women for depression and providing professional support to the risky group can prevent the devastating effects of depression.

Acknowledgments: The authors thank the doctors and health workers who worked hard during the pandemic.

Author Contributions: RD, NF, BS, NÇ, MÖ, ÖS: Study design, Literature review, Data collection and/or processing, Analysis and/or interpretation, RD: Writing, Revision

Conflict of interest: The author declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. This research did not receive and a specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Ethical approval: The study was conducted according to the guidelines of the Declaration of Helsinki and approved by Local Ethical Committee. All procedures performed in studies with human participants met the ethical standards of the Institutional Research Commission and the 1964 Declaration of Helsinki and its subsequent amendments or comparable ethical standards.

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