

The Effects of Maternal Employment on Depression, Anxiety, Maternal Attachment, and Self-Confidence

Annelerin Çalışma Durumunun Depresyon, Anksiyete, Maternal Bağlanma ve Özgüven Üzerine Etkileri

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ABSTRACT

Objective: We aimed to evaluate anxiety and depression, maternal attachment, and self-esteem in working mothers.

Methods: We recruited 200 working and 200 non-working mothers with children younger than 6 years old. We used the Beck Anxiety Inventory, Edinburgh Postpartum Depression Scale, Pharis Self-Confidence Scale, and Maternal Attachment Inventory. In addition, we used the Structured Clinical Interview for Diagnostic and Statistical Manual, fourth edition to rule in major depressive disorder.

Results: We found that working mothers had a lower depression rate than non-working mothers ($P = .007$), but the anxiety rate was insignificant ($P > .05$). However, working mothers had significantly lower maternal attachment ($P = .032$) and self-confidence ($P = .001$) than non-working mothers.

Conclusion: Maternal employment had a positive effect on depression, but it had no impact on anxiety.

Keywords: anxiety, depression, maternal attachment, self-confidence, working mothers

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ÖZ

Amaç: Çalışan annelerde anksiyete, depresyon, maternal bağlanma ve özgüveni değerlendirmeyi amaçladık.

Yöntemler: Bu çalışmaya altı yaşından küçük çocuğu olan 200 çalışan ve 200 çalışmayan anne dahil edildi. Beck Anksiyete Envanteri, Edinburgh Doğum Sonrası Depresyon Ölçeği, Pharis Özgüven Ölçeği ve Maternal Bağlanma Envanteri kullandık. Ek olarak, katılımcılardaki depresyon durumu SCID-I yapılandırılmış görüşmesiyle değerlendirildi.

Bulgular: Çalışan annelerde çalışmayan annelere göre depresyon oranının daha düşük olduğunu ($P = .007$), ancak anksiyete seviyeleri arasında bir fark olmadığını ($P > .05$) bulduk. Diğer bir yandan, çalışmayan anneler önemli ölçüde daha yüksek maternal bağlanmaya ($P = .032$) ve özgüvene ($P = .001$) sahipti.

Sonuç: Altı yaşından küçük çocuğu olan annelerin çalışmasının, depresyon üzerine olumlu etkisi saptanırken anksiyete üzerinde bir etkisinin olmadığı bulundu.

Anahtar Kelimeler: Anksiyete, çalışan anneler, depresyon, maternal bağlanma, özgüven

INTRODUCTION

The role of women in society has been questioned for a long time due to them having dual roles at home and in the workplace. Although women typically share housework and childcare responsibility with their husbands, it is socially accepted to be primarily the wife's responsibility. This may be due to the special connection between mother and child. On top of their role at home, women often work to provide financial assistance to their family. The proportion of women in the labor force has been steadily increasing so now there is a vast number of women comprising the labor population across the world. In Turkey, the female labor force has increased by 10% over the 10 years and now consists of 34% of the total labor force.¹ The proportion of the women in the labor force in the United States was approximately 45% in 2019, meaning almost half of the workers are women.² Because it has been well established that women have a higher prevalence of anxiety and depression than men, one emerging question is whether dual roles contribute to anxiety and depression in women.³

During the postpartum period, there is an increased risk of mood disturbance. Most mothers need to return to the work soon after giving birth, so their dual roles start during this time of heightened susceptibility. Although several studies have investigated the relationship between work status and anxiety or depression in women, they produced controversial results. Özgür et al⁴ found that working women had almost 1.3 times higher depression scores than non-working women. Dawood and Habib⁵ found that working pregnant women had a higher rate of severe depression and anxiety than non-working pregnant women. On the contrary, Gurudatt⁶ found that working women had a significantly lower postpartum depression rate than non-working women. Most of these studies focused on working women, but only a few studies investigated working mothers. Namely, Adhikari⁷ found a high level of depression and anxiety in working mothers than in non-working mothers.

Depression causes impaired function, which makes it hard for a mother to take care of her baby due to decreased energy or low self-confidence. Maternal self-confidence is a mother's believed ability to take care of her baby and respond appropriately to his or her

needs.⁸ Postpartum depression was found to have a negative correlation with maternal self-confidence.⁹ Also, a mother with postpartum depression could fail to bond well with her baby.¹⁰ Maternal attachment is the mothers' feeling for and sense of connection to their baby. It usually develops before birth, and it grows after the baby is born. Mothers play a crucial role in offering empathetic anticipation to the infant's needs. The quality of the attachment between baby and mother plays a vital role in the child's mental health.

To our knowledge, there is no study that has investigated the anxiety and depression rate in working mothers with children under 6 years of age. The first 6 years of a child's life are fundamentally important because they are dependent on caregivers, and early experiences directly impact how children develop learning skills and social and emotional abilities. According to the U.S. Bureau of Labor Statistics, among mothers, the labor force participation rate for those with children under 6 years old was 65.1% in 2017.¹¹ This study aims to evaluate the anxiety and depression rates and severity as well as attachment and maternal self-esteem in working mothers with children younger than 6 years old.

METHODS**Subjects**

This is a cross-sectional study conducted in 4 different community health centers, which were categorized based on the socio-economical level in İstanbul, Turkey. We recruited 200 working and 200 non-working mothers with children younger than 72 months from January 2017 to December 2018. Inclusion criteria for all participants were as follows: being literate, participating voluntarily, having a child younger than 6 years old, and being 18-45 years old. Additionally, mothers who have been working at least 1 year prior to delivery and were working at the time of the interview were enrolled in the working mothers category even if they were on maternal leave at the time of the interview. Otherwise, they were enrolled in the non-working mothers group. The mothers who brought their children to community health center for well-child visit were recruited consecutively. Exclusion criteria were as follows: history of psychotic disorder or bipolar disorder in the mother, intellectual developmental disability

or other mental illness requiring a legal guardian in the place of the mother, chronic severe medical conditions such as diabetes mellitus, hypertension, cardiac problems, and thyroid disease in the mother, a history of substance use disorder in the mother, severe diseases such as Down syndrome in the infant, and malformation or failure to thrive in the infant. The study was approved by Bakırköy Mazhar Osman Mental Health and Neurological Diseases Research and Training Hospital Ethical Committee (Date: January 03, 2017, with the number of 599). Informed consent was obtained from all participants.

Measures

Sociodemographic Data Form: The research team prepared a form designed to obtain data on sociodemographic status of the subjects. All participants filled out the form, which included information such as the mother's age, working status, marital status, education status, work status, mother income, household income, questions about pregnancy period, breastfeeding status, number of children, and the child's age.

We used the Beck Anxiety Inventory (BAI), Turkish version,¹² which is a self-report inventory that assesses clinical anxiety.¹³ The Edinburgh Postpartum Depression Scale (EPDS), Turkish version,¹⁴ was used to assess for depression. We used a cut-off score of >12 as indicative of clinically significant depression.¹⁵ The Pharis Self-Confidence Scale (PSCS), Turkish version, was used to measure the mother's self-confidence in daily infant care. A higher total score shows higher self-confidence in baby care.¹⁶ The Maternal Attachment Inventory (MAI), Turkish version,¹⁷ was used to measure maternal affectionate attachment. Higher scores show an excellent attachment between the mother and the infant.¹⁸ In addition, we used The Structured Clinical Interview for Diagnostic and Statistical Manual, fourth edition (DSM-IV) (SCID), Turkish version,¹⁹ which is a semi-structured interview created to make reliable psychiatric diagnoses in adults according to DSM-IV. We used the SCID-I clinician version.²⁰ Participants who had a high score in EPDS were assessed by SCID to determine depression.

Statistical Analysis

We used International Business Machines Corporation (IBM) Statistical Package for the Social Sciences version 21.0 software (IBM SPSS Corp. Armonk, NY, USA) to perform statistical analysis. Descriptive statistics were given as median, minimum-maximum, and percentage. Pearson's chi-squared test was used to compare categorical variables. We used the Kolmogorov-Smirnov test to check the distribution of continuous variables and then the Mann-Whitney *U* test to compare groups. The correlation between variables was tested by the Spearman's correlation test. First, we used univariate logistic regression analysis to determine independent variables which statistically significantly predicts the presence of

anxiety and depression in both working and non-working mothers. Then, statistically significant variables ($P < .25$) based on univariate logistic regression analysis were used to perform multivariate logistic regression analysis. The forward method was used in the multivariate logistic regression analysis. The statistical significance level was determined as $P < .05$.

Data Availability

The data associated with the paper are not publicly available but are available from the corresponding author on reasonable request.

RESULTS

We summarized sociodemographic information and clinical features in Table 1.

Of those, 62% of working mothers and 25% of non-working mothers complained of not able to spend enough time with their baby ($P = .001$). The median duration for spending time with the child was 2 hours for working mothers and 4 hours for non-working mothers ($P < .001$). Of working mothers, 94% reported a change in sleep pattern after delivery, compared to 84.5% of non-working mothers ($P = .002$). Most working mothers were university graduates, while non-working mothers were middle school graduates ($P < .001$).

Among working mothers, 36.1% reported that being a mother had a positive impact on their work, while 19.1% reported a negative impact and 44.8% were neutral. Of working mothers, 19.9% reported onsite childcare in offices and 80.1% did not. Of working mothers, 84.7% took an extra vacation in addition to a maternity leave to take care of the baby. The comparison of depression, anxiety, maternal attachment and self-confidence scores, and rates between working and non-working mothers are presented in Table 2.

Correlation

In working mothers, there was a modest negative correlation between depression scores and nighttime sleep duration ($r_s = -0.158$, $P = .029$) and between depression scores and total sleep duration ($r_s = -0.171$, $P = .018$), both of which were statistically significant. Maternal attachment had weakly positive correlation with both self-confidence ($r_s = 0.205$, $P = .004$) and the time spent with the child ($r_s = 0.205$, $P = .005$). Moreover, breastfeeding had a negative, statistically significant correlation with anxiety level ($r_s = -.141$, $P = .046$).

In non-working mothers, there was a weakly negative correlation between depression scores and breastfeeding duration ($r_s = -0.206$, $P = .025$), nighttime sleep duration ($r_s = -0.192$, $P = .011$), and total sleep duration ($r_s = -0.183$, $P = .015$). Spending time with baby was

Table 1. Sociodemographic Information and Clinical Features of All Participants

	Working	Non-working	P
Mothers' age (year) (median) (min-max)	34 (24-44)	32 (20-45)	.001*
Youngest child age (month) (median) (min-max)	28 (1-72)	24 (1-70)	.006*
Number of children (median) (min-max)	1 (1-5)	2 (1-6)	<.001*
Marital status (married)	95%	99%	.019**
The last pregnancy was desired	87.5%	76.5%	.004**
Wants to get pregnant again	37%	27%	.032**
Followed-up obstetrics appointments	97.5%	89%	.001**

$P < .05$ was accepted as statistically significant.

*Mann-Whitney *U* test; **Chi-squared test.

Table 2. Anxiety, Depression, Maternal Attachment, and Self-Confidence Comparisons

	Working Mothers	Non-working Mothers	P
EPDS (mean) (min-max)	7 (0-22)	7 (0-28)	.625 [#]
Depression rate (%)	7%	15,5%	.007 [#]
BAI (mean) (min-max)	5 (0-33)	5 (0-50)	.976 [#]
Anxiety rate (%)	16.5%	17%	.893 [#]
MAI (mean) (min-max)	100 (74-104)	102 (67-105)	.032 [#]
PSCS (mean) (min-max)	60 (19-65)	61 (32-65)	.001 [#]

MAI, Maternal Attachment Inventory; PSCS, Pharis Self-Confidence Scale; EPDS, Edinburgh Postpartum Depression Scale; BAI, Beck Anxiety Inventory. [#]Mann-Whitney *U* test; [#]chi-squared test.

negatively correlated with both anxiety ($r_s = -0.162$, $P = .022$) and depression level ($r_s = -0.174$, $P = .014$). The self-confidence had modest negative correlation with both anxiety ($r_s = -0.175$, $P = .013$) and depression level ($r_s = -0.235$, $P = .001$). Maternal attachment had a positive correlation with self-confidence ($r_s = 0.176$, $P = .012$) and no correlation with the amount of time spent with the child ($P > .05$).

Regression Analysis

Among working mothers, those whose income was below 1500 Turkish Lira (LR) (minimum monthly wage) had a 54.47 times higher anxiety rate and a 9.94 times higher depression rate than those whose income was above 4500 TL ($P = .001$ and $P = .036$, respectively). Working mothers who needed psychiatric help had 4.87 times higher anxiety rate than those who did not ($P = .007$). Working mothers whose child had a chronic medical condition had an 8.04 times higher anxiety rate and a 6.48 times higher depression rate than those whose children did not ($P = .001$, $P = .013$, respectively). As maternal attachment score increases by 1 point, anxiety rate decreases 0.92 times and depression rate increased by 1.27 times in working mothers ($P = .032$, $P = .042$, respectively). Working mothers who were high school graduates or university graduates had 17.31- and 21.18-times higher anxiety rates (respectively) than those with a doctorate degree ($P = .023$, $P = .007$, respectively). As the number of children increases by 1, the depression rate rises 4.04 times.

Among non-working mothers, those who had a complication during pregnancy had a 4.17 times higher anxiety rate than those who did not ($P = .004$). Mothers who saw a psychiatrist during pregnancy had a 17.95 times higher anxiety rate and a 29.64 times higher depression rate than those who did not need (All $P < .001$). As Pharis's confidence score increases by 1 point, anxiety and depression rates decrease by 0.93 and 0.94 times ($P = .013$ and $P = .045$, respectively). Non-working mothers whose husbands do not work at a permanent job had 7.25 times higher depression rates than those whose husband did. If the pregnancy was not planned, the depression rate was 3.96 times higher than those who planned ($P = .007$). Non-working mothers were 2.43 times more likely to have depression than working mothers.

DISCUSSION

In a predominantly male world, working mothers have been struggling to find their roles at home and work. This study conducted on working mothers has revealed significant results regarding

depression and anxiety, as well as maternal attachment and self-confidence. To the best of our knowledge, this is the first study investigating anxiety, depression, maternal attachment, and self-confidence in working mothers. We found that working mothers had significantly lower rates of depression. However, they had significantly lower maternal self-confidence and maternal attachment than non-working mothers. Our results are comparable to studies from India which indicated that working women had lower depression rate than non-working women.^{6,21} In a similar way, a study from Egypt reported a lower rate of depression in working pregnant women.⁵ Moreover, a study from Canada supported this finding and showed that working pregnant women had lower depression rates compared to pregnant housewives and pregnant women who stopped working.²² Our study supports the literature and validates the findings for Turkish working mothers. Similar results from different countries suggest that it is less likely related to culture and that working during or after pregnancy might be a protective factor from depression.

On the contrary, some studies found that working mothers had a higher level of anxiety and depression.^{4,7,23,24} Of those, a study claimed that working women do not have enough time for personal interests and recovery since they continuously work both at home and work.²³ However, we know that employment has positive effects on emotional functioning, thanks to occupational socialization.²⁵ A workplace also could be a social environment, and a big part of social interaction takes place at work. Besides, financial independence allows people to meet their needs. In comparison, non-working women have lower life satisfaction and higher stress in their life.²⁶ Staying home, having fewer opportunities for socialization, and taking care of the baby all day rather than spending time on personal interests and self care may be contributing to postpartum depression. Fall et al²² found a relationship between depression and low social support and lack of money for basic needs.²² Social support at work was demonstrated to be directly related to low depression, and its benefits on a person's psychological well-being were provided in a study.²⁷ A study suggested that being employed allows for better adjustment to stressful situations and financial independence in working women²⁸ and found a link between paid employment and reduced depression.²⁹ We found that the financial situation is crucial for depression and anxiety. Working mothers with a low income had 54 times higher anxiety levels and 9.9 times higher depression score than those with higher income. Non-working mothers' depression level increased if their husbands did not have a permanent job.

We also found other factors affecting maternal depression and anxiety in mothers. A chronic medical condition in the child was found to affect the mother's depression adversely. The fact that working mothers had higher education levels than non-working mothers supports the point that going through rigorous education and exams throughout school might help people to develop coping mechanisms and be more resilient. Hence, working mothers must be dealing well with stress. Another factor was sleep duration which was inversely correlated with depression in both groups. Besides, non-working mothers' depression score was negatively correlated with breastfeeding duration and the time spent with the baby. A link was found between postpartum depression and not breastfeeding the baby.³⁰

Another significant finding of this study was lower maternal attachment in working mothers compared to non-working mothers. Maternal attachment, which begins during pregnancy and continues over the next few years, is an essential process between a mother

and her baby for the infant's mental development.³¹ The quality of the attachment plays a vital role in the child's mental health. Lack of social-emotional interactions with a baby increases the likelihood of attachment problems.³² Previous studies showed that attachment between mother and baby was not affected by maternal employment but by depression peripartum onset.³³⁻³⁶ On the contrary, maternal employment was showed to have a positive influence on the mother-child relationship.³⁷ As opposed to what has previously been reported in the literature, this study found that working mothers had weaker maternal attachment even though they had lower depression rates. Thus, there must be other factors affecting maternal attachment. Although anxiety had a negative correlation with maternal attachment, both working and non-working mothers had similar anxiety levels, so this cannot explain the weaker maternal attachment of working mothers. Easterbrooks and Goldberg³⁴ suggested that maternal-infant attachment was directly related to the amount of time spent with their children, which could explain our finding. According to our results, maternal attachment positively correlated with the time spent with the baby. Working mothers spent 2 hours lesser than non-working mothers. This explains why working mothers had lower maternal attachment even though they had lower depression rate.

The last significant result was maternal self-confidence. We found lower self-confidence in working mothers compared to non-working mothers. Maternal self-confidence is a woman's ability to identify her role in motherhood and is an appraisal of herself as a mother.³⁸ Denis et al³⁹ found a negative correlation between maternal self-confidence and postpartum blues intensity, and they suggested that low maternal self-confidence may imply a lack of competence in caretaking abilities. We found that maternal self-confidence was negatively correlated with depression and anxiety in non-working mothers. Like maternal attachment, self-confidence was also found to be positively correlated with the time spent with the child in working mothers. Therefore, we need to find a way for mothers to continue working and also spend some time with their baby during the day. Onsite childcare could be the solution of this problem. Only 1 in 5 working mother reported having onsite childcare. Increasing the availability of onsite childcare should be encouraged.

Our study had some limitations. This study is a cross-sectional study, and we do not know the temporal relationship between maternal employment and depression and anxiety. When we asked about breastfeeding status, we should have taken into account the amount of time that has passed since delivery. Despite these limitations, we believe our findings provide critical groundwork for future studies.

Maternal employment had a positive effect on depression but no effect on anxiety. Although working mothers had lower maternal attachment and self-confidence, we showed that these variables were related to the time spent with the child and that working mothers need to spend more time with their child throughout the day. Longer maternity leave and onsite childcare could help working mothers to spend more time with their babies as they pursue their careers. We recommend increasing the duration of maternity leave and opening more onsite childcare facilities.

Ethics Committee Approval: Ethics committee approval was received for this study from the ethics committee of Bakırköy Mazhar Osman Mental Health

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