CUIDADO É FUNDAMENTAL

THE RELATIONSHIP BETWEEN COVID-19 PHOBIA AND POSTPARTUM ANXIETY EXPERIENCED BY MOTHERS WHOSE INFANTS ARE HOSPITALIZED IN NICU

A relação entre a fobia de covid-19 e a ansiedade pós-parto vivenciada por mães cujos bebês são hospitalizados em nicu

Relación entre la fobia al covid-19 y la ansiedad posparto experimentada por las madres cuyos hijos son hospitalizados en la nicu

Gül Şahin[1] 🆔

Nuriye Erbaş[2] 🆔

ABSTRACT

Objective: the study was conducted in order to examine the relationship between COVID-19 phobia and postpartum anxiety experienced by mothers whose infants received treatment in neonatal intensive care unit in the pandemic period. **Methods:** this descriptive study was conducted with the participation of 258 mothers who stayed in maternity hotel in the postpartum period. The study data were collected through Personal Information Form, COVID-19 Phobia Scale and Postpartum Specific Anxiety Scale. **Results:** the mean score of the participants on COVID-19 Phobia Scale was found to be 56.76, and postpartum anxiety levels of 61.6% of the participants were determined to be high. A statistically significant, positive, and moderate relationship was found between postpartum specific anxiety levels and psychological and social subscales of COVID-19 Phobia Scale (p<0.01), while a positive and weak correlation was determined with somatic and economic subscales (p<0.01). **Conclusion:** Coronophobia was found to be associated with postpartum anxiety. puerperal mental health should also be evaluated during the pandemic period

DESCRIPTORS: Postpartum; Postpartum anxiety; COVID-19 phobia; Pandemic.

[1,2]Sivas Cumhuriyet University, Sivas, Turkey.

CORRESPONDING AUTHOR: Gül Şahin dndgul1994@gmail.com

RESUMO

Objetivo: o estudo foi realizado com o objetivo de examinar a relação entre a fobia da COVID-19 e a ansiedade pós-parto vivenciada por mães cujos bebês receberam tratamento na unidade de terapia intensiva neonatal no período da pandemia. **Métodos:** este estudo descritivo foi realizado com a participação de 258 mães que se hospedaram em uma maternidade no período pós-parto. Os dados do estudo foram coletados por meio do Formulário de Informações Pessoais, da Escala de Fobia da COVID-19 e da Escala de Ansiedade Específica do Pós-parto. **Resultados:** a pontuação média das participantes no Fobia da COVID-19 foi de 56,76, e os níveis de ansiedade pós-parto de 61,6% das participantes foram considerados altos. Foi encontrada uma relação estatisticamente significativa, positiva e moderada entre os níveis de ansiedade específica pós-parto e as subescalas psicológica e social do Fobia da COVID-19 (p<0,01), enquanto uma correlação positiva e fraca foi determinada com as subescalas somática e econômica (p<0,01). **Conclusão:** verificou-se que a coronofobia está associada à ansiedade pós-parto. A saúde mental da puérpera também deve ser avaliada durante o período pandêmico.

DESCRITORES: Pós-parto; Ansiedade Pós-parto; Fobia de COVID-19; Pandemia.

RESUMEN

Objetivos: el estudio se realizó con el fin de examinar la relación entre la fobia al COVID-19 y la ansiedad posparto experimentada por las madres cuyos hijos recibieron tratamiento en la unidad de cuidados intensivos neonatales en el periodo pandémico. **Métodos:** este estudio descriptivo se realizó con la participación de 258 madres que se alojaron en el hotel de maternidad en el período posparto. Los datos del estudio se recogieron mediante el Formulario de Información Personal, la Escala de Fobia COVID-19 (C19P-S) y la Escala de Ansiedad Postparto Específica. **Resultados:** la puntuación media de las participantes en el Escala de Fobia fue de 56,76, y se determinó que los niveles de ansiedad posparto del 61,6% de las participantes eran elevados. Se encontró una relación estadísticamente significativa, positiva y moderada entre los niveles de ansiedad específica posparto y las subescalas psicológica y social del Escala de Fobia (p<0,01), mientras que se determinó una correlación positiva y débil con las subescalas somática y económica (p<0,01). **Conclusiones:** la coronofobia se encontró asociada a la ansiedad posparto. la salud mental puerperal también debe ser evaluada durante el período pandémico.

DESCRIPTORES: Posparto; Ansiedad posparto; Fobia COVID-19; Pandemia.

INTRODUCTION

In recent years, there has been an increased interest in women's mental health and especially in mental disorders related with reproductive period. Physical and hormonal changes brought about by pregnancy and childbirth process and responsibilities coming along with new roles may cause mental disorders to develop in mothers.[1] Among the reasons for mental disorders, it is possible to list family structure, culture, and family problems that cause lack of social support as well as the infant's hospitalization in neonatal intensive care unit.[2] In addition, considering the bodily contact between the mother and the baby, fast development of bond between them in the postpartum period, and breast milk production, the mother and the baby should not be separated. However, infants hospitalized in the neonatal intensive care unit (NICU) cannot fully benefit from this bond, and the mother who has just given birth has to start breastfeeding her baby before she recovers herself.[3]

When the effect of social risk factors in addition to individual characteristics and social support in the development of mental disorders is considered, COVID-19, which started in late 2019 and caused severe morbidities and mortalities across the world, has also led to psychological problems in individuals.[4] This uncertain period has increased concerns more in women, who are already psychologically more vulnerable in the perinatal period. Especially separation of the mothers from their infants and their inability to breastfeed them in the postpartum period caused them to experience anxiety.[5]

There are studies conducted in the literature on mothers whose babies are hospitalized in neonatal intensive care unit and postpartum anxiety. In the present study, it was aimed to analyze the psychological status of women who were in a mentally more sensitive period in the pandemic process that psychologically affected individuals and who used the hospital actively due to hospitalization of their infants in neonatal intensive care unit.

METHODS

Design: The study was conducted with a descriptive and cross-sectional design

Population and sample: The study population consisted of 1,442 mothers visit the hospital annually. The study sample was determined to be at least 258 according to sampling method with a known population used in order to identify the frequency of an event. In this research, "G. The Power-3.1.9.4" program was used. Accordingly, the effect size of the study was determined as 0.3, the alpha value was determined as 0.05 and the power was determined as 0.99 by taking the number of 258 samples. The study was completed with the participation of 258 mothers who used the.

Inclusion and exclusion criteria: Mothers who visit the hospital due to the hospitalization of their infants

in neonatal intensive care unit (NICU), who stayed at the hospital for at least a week, who were between the ages of 20-35 years, and who were literate in Turkish were included in the study, while mothers who used the maternity hotel on the day while waiting for delivery, who had a history of a psychiatric disease and therefore taking psychiatric medicine, who were diagnosed with COVID-19 and who had a family member diagnosed with COVID-19, and who had foreign nationality and used the maternity hotel of Sivas Numune Hospital were excluded from the study.

Data collection tools: The data were collected through personal information form developed by the researchers, COVID-19 Phobia Scale, and Postpartum Specific Anxiety Scale. The personal information form consisted of 16 questions on age, educational status, employment status, occupation, allergy status, smoking and alcohol status, having a chronic disease or not, having a psychiatric disease or not, having a postpartum psychiatric disorder or not, use of psychiatric drugs, having a relative diagnosed or suspected with COVID-19, history of reproductivity, planned pregnancy status, and the care status (primary, secondary, etc.) of the intensive care unit where the infant is hospitalized.

The COVID-19 Phobia Scale (C19P-S) is a 5-point Likert type self-report scale that was developed by Arpaci et al. in 2020 in order to measure the phobia that may develop against COVID-19. It is suitable for the age group of 12-92 years. The scale has 4 subscales, which are Psychological Subscale (items 1, 5, 9, 13, 17, 20), Somatic Subscale (items 2, 6, 10, 14, 18), Social Subscale (items 3, 7, 11, 15, 19), and Economic Subscale (items 4, 8, 12, 16). The scores to be obtained from the scale range between 20 and 100. Higher scores indicate high level of phobia on the subscales and general COVID-19 phobia. The validity and reliability study of the scale was conducted by Arpaci et al. in 2020, and the Cronbach's alpha coefficient of the scale was found to be 0.92.[6]

The Postpartum Specific Anxiety Scale (PSAS) is a 51-item scale developed by Fallon et al. It is applied to mothers in the postpartum 0-6 months in order to evaluate their anxiety levels. The Turkish form of the scale consists of 47 items under four subscales, which are maternal competence and attachment anxieties (items 1-12), infant safety and welfare anxieties (items 13-26), practical infant care anxieties (items 27-33), and psychosocial adjustment to motherhood (items 34-47). The responses are evaluated on a 4-point Likert type scoring system. Scores of 73 and below indicate low levels of postpartum anxiety, scores between 74 and 100 show moderate postpartum anxiety, and scores of 101 and above are indicative of high levels of postpartum anxiety. In terms of validity, the scale has a single factor load (030-0.58). In terms of reliability, the scale was adapted to Turkish by Duran in 2019, and the Cronbach's alpha coefficient of the scale was determined as 0.91.[7-8]

Statistical analysis: In the statistical analysis of the study data, Statistical Package for the Social Sciences (SPSS) 20.0 package software was used. In describing the data, frequency, percentage, arithmetic mean, and standard deviation were used. Kolmogorov Smirnov test was applied in order to determine whether the parameters obtained according to the data showed normal distribution. As a result of this analysis, it was found that the data on the characteristics of the participants did not meet normal distribution requirements. Mann Whitney U test was used for two independent groups, while Kruskal Wallis test was performed for more than two independent groups. The statistical significance level was set at $p < 0.05$.

Ethical aspect of the study and data collection: Prior to data collection, ethical approval was obtained from XXX University Non-Interventional Clinical Research Ethics Committee (Decision n°: 2020-07/18), and institutional permission of XXX Provincial Health Directorate were obtained. Before starting the study, the participating women were informed that participation in the study was on a voluntary basis, that the data to be collected would be used only for the study and that their personal information would be protected once they were shared with the researcher, and after informing them about the purpose and duration of the study, their verbal and written consent was obtained. The most suitable time for the women was selected by considering their hours of visiting their infants in the NICU. The data collection tools were filled in by those who agreed to participate in the study at the hospital in about 20-30 minutes by observing hygiene and social distancing measures.

RESULTS

It was determined that 78.7% of the participants were 29 years old and below. It was also found that 22.5% had undergraduate degree, 69.4% were unemployed and homemakers. Regarding the obstetric characteristics of the participants, 39.5% had a history of two pregnancies and 47.7% had a history of two childbirths, while 68.6% did not have a planned pregnancy. The mean C19P-S score of the participants was found to be 56.76. Moreover, their mean score in the psychological subscale was 19.31, their mean score in the somatic subscale was 11.16, their mean score in the social subscale was 16.76, and their mean score in the economic subscale was 9.62 (Table 1).

Table 1 - Average Score Distribution of the Participants' Covid-19 Phobia and Its Subscale

COVID-19 Phobia Scale	Medium	Standard Deviation	Minimun	Maximun
Psychological Subscale	19,31	3,04	10,00	29,00
Somatic Subscale	11,16	2,80	5,00	19,00
Social Subscale	16,67	2,67	9,00	25,00
Economic Subscale	9,62	2,37	4,00	17,00
C19P-S Total Score	56,76	9,02	31,00	84,00

Source: Authors, 2024.

Furthermore, the postpartum anxiety levels of 61.6% of the participants were determined to be high, 34.5% of the participants were found to have moderate levels of postpartum anxiety, and 3.9% had low levels of postpartum anxiety (Table 2).

Table 2 - Distribution of Participants by Postpartum Anxiety Levels

Level (PSAS)	n	%
High Anxiety (101 and above)	159	61.6
Moderate Anxiety (74-100 points)	89	34.5
Low Anxiety (73 and below)	0	3.9

Source: Authors, 2024.

A statistically significant, positive, and moderate relationship was found between postpartum-specific anxiety levels and the scores of the participants in the psychological and social subscales of C19P-S (p<0.01), while a positive and weak correlation was determined between these anxiety levels and somatic and economic subscale scores (p<0.01) (Table 3).

Table 3 - Results of the Correlation Analysis between COVID-19 Phobia Scale and Postpartum Specific Anxiety Scale Scores of the Participants

COVID-19 Phobia Scale		PSAS
Psychological Subscale	r	.421**
	p	.000
Somatic Subscale	r	.344**
	p	.000
Social Subscale	r	.417**
	p	.000
Economic Subscale	r	.236**
	p	.000
C19P-S Total Score	r	.434**
	p	.000

Source: Authors, 2024. *. p<0.05; **.p<0.00;.

DISCUSSION

In the study, COVID-19 Phobia total scale score of the mothers was found to be 56.76±9.02. In the literature, there are studies conducted on fear of COVID-19, but COVID-19 phobia and its subscales in women in the postpartum period have not been examined. In the study conducted by Sevimli (2020), COVID-19 phobia mean score of the puerperae was found to be 22.19±7.05 (range:5-35), while in the study conducted by Uzun et al. (2021), it was determined as 18.00±4.3 (range:5-35). In the study they conducted, Guvenc et al. (2021), found that 66% of the puerperae experienced fear of being infected with COVID-19.[9,10,11] The high mean scores obtained in the present study and other studies can be attributed to the increase in the risk of mental disorders as result of physical and hormonal changes developing in women in the postpartum period.

Among studies conducted on COVID-19 phobia, in the study conducted by Karkin et al. (2021), on pregnant and non-pregnant women, COVID-19 phobia levels were found to be higher in pregnant women in comparison to non-pregnant women (57.18±19.10 vs. 52.84±17.55).[12] The lower levels of COVID-19 phobia obtained in this study for women in the postpartum period in comparison to the pregnant women who were included in the study conducted by Karkin et al. can be related to the possibility that in the COVID-19 pandemic period, pregnant women may have experienced more stress, fear, and anxiety compared to puerperal women 13. The higher levels of fear in pregnant women compared to non-pregnant women can be explained by the increase in responsibilities coming along with pregnancy and childbirth. Additionally, in the study conducted by Demir & Sarıboğa (2021), with nurses, the mean COVID-19 phobia score of female nurses was found as 59.51±19.14, while in the study conducted by Karkin et al. (2021), with health professionals of both sexes, the mean COVID-19 phobia score of female health professionals was found to be 55.66±14.71.[14,15]

In the aforementioned studies, situations such as the active presence of female health professionals in the hospital in the pandemic period, their position in the frontlines in the fight against the pandemic, and their risk of contracting the disease and infecting others may have caused them to be psychologically worn out. Besides, they had to isolate themselves from their families to prevent infecting them with the virus, and thus, their social relationships could also have been disrupted. These issues were similar to those in this study, such as the active presence of women in the hospital,

the risk of their infants hospitalized in NICU being infected, and their isolation from their families. Therefore, these may be the reasons why their total COVID-19 phobia scores were found high.

In the present study, 61.6% of the women were determined to have high levels of anxiety. In the study conducted by Reck et al. (2008), postpartum anxiety rate was found as 11%,; in the study by Paul et al. (2013), state-trait anxiety rate was determined as 17%; in the study by Fairbrother et al. (2016), postpartum common anxiety rate was found as 17.1%; and in a recent systematic compilation study conducted by Field (2018), maternal anxiety was found to vary between 13-40%.[16,17,18,19] Regarding the studies conducted in Turkey, in their study, Bayri Bingol & Demirgöz Bal (2021), found high anxiety rate in women in the postpartum period as 37.4%, and in the study conducted by Yalçın & Kaya (2020), high anxiety rate was determined to be 49-49.2%.[20,21] As a result, it was observed that postpartum anxiety rates increased over the years, and the reason for this could be the recent focus on anxiety disorders. High anxiety levels found in the majority of the mothers participating in the present study can be explained by the start of an uncertain period with the pandemic, decrease in social support due to their use of the maternity hotel, and hospitalization of their infants in the neonatal intensive care unit.

As a result of the present study, a positive and moderate level of relationship between postpartum anxiety level and psychological and social subscales of C19P-S. The psychological subscale consists of items such as fearing that an individual and his/her family might contract the disease, news about the pandemic, the spreading rate of the pandemic, and being affected by the insensitivity of others towards the pandemic.[6] The thought of herself and her infant being harmed in mothers leads to postpartum mental disorders [7]. This can explain the relationship determined in the present study. As regards the social subscale items, there are items such as avoiding sneezing people, disruption of social relations, and fear of being infected by others.6 We have discussed in previous sections that postpartum mental disorders are related with social relations. In the study, it was determined that the mothers' social relations were disrupted due to the measures introduced by the institution in the pandemic period and the mothers' isolating themselves. On the other hand, disruption of social relations does not eliminate the existing fear, but it constitutes a risk factor for postpartum mental disorders.

CONCLUSION

In conclusion, a positive relationship was found between postpartum-specific anxiety levels and the scores of the participants in the subscales of C19P-S.

In line with these results, it can be recommended that mothers whose infants are treated and discharged and those who stay in maternity hotels to provide care for their infants

be evaluated in terms of postpartum mental disorders and the psychological effects of the pandemic so that the problems that could develop can be detected in early period. Additionally, psychological problems experienced in the pandemic period can pose more risks for mothers who are already in a sensitive mood in the postpartum process. Health professionals and researchers can raise awareness in this regard for women in this sensitive process and help prevent the exacerbation of their risk factors.

Limitations: This study is limited to 258 postnatal women registered in Sivas Province and cannot be generalized to all postnatal women. In addition, the implementation process of the study was affected due to the COVID-19 pandemic and these effects were reflected in the results, which is another limitation of the study.

REFERENCES

1. T.C Quality Standards in Health Indicator Management Guide. Department of Quality in Health, Accreditation and Employee Rights.2020;98.

2. Aktaş M, Akca E, Senoğlu S, Gokyıldız Surucu S. Investigation of Anxiety and Depression Levels of Parents whose Baby Is Inpatient in the Neonatal Intensive Care Unit. Araştırma Makalesi. [Internet]. 2019 [cited 2024 aug 06];28(02). Available from: https://doi.org/10.17942/sted.457029.

3. TC. Ministry of Health, General Directorate of Public Hospitals (2008). Anne Guest House Service Presentation Guide (Internet) www.khgmsaglikbakimdb.saglik.gov.tr Date accessed: 07.06.2020.

4. Bekaroğlu E, Yılmaz T. Covid-19 and its Psychological Effects: A Review from the Perspective of Clinical Psychology. Journal of Object Psychology. [Internet]. 2021 [cited 2024 aug 06];8(18). Available from: http://doi.org/10.7816/nesne-08-18-14.

5. Liu R, Han H, Liu F, Lv Z, Wu K. Positive Rate of RT-PCR Detection of SARS-Cov-2 Infection in 4880 Cases from

One Hospital in Wuhan, China, From Jan To Feb, Clinica Chimica Acta. 2020;505, 172-175.

6. Arpacı I, Karatas K, Baloglu M. The Development and Initial Tests for the Psychometric Properties of the Covid-19 Phobia Scale (C19P-S). Personality and Individual Differences. doi:10.1016 / j.paid.2020.110108.

7. Fallon V, Halford JCG, Bennett KM, Harrold JA. Postpartum-Specific Anxiety as a Predictor of Infant-Feeding Outcomes and Perceptions of Infant-Feeding Behaviours: New Evidence for Childbearing Specific Measures of Mood. Arch Womens Ment Health 2018;21(2):181-91.

8. Duran S. Postpartum Specific Anxiety Scale (PSAS): Reliability and validity of the Turkish version. Perspectives in Psychiatric Care. [Internet]. 2019 [cited 2024 aug 06];1(7). Available from: https://doi.org/10.1111/ppc.12385.

9. Sevimli, AD. Lohusaların Koronavirüs (Covıd-19) Korkusu ve Doğum Sonu Destek Gereksinimlerinin Belirlenmesi. T.C. İstinye Üniversitesi. Yüksek Lisans Tezi.

10. Uzun A, Öztürk GZ, Bozkurt Z, Çavuşoğlu M. Comparison of Fear of Covid-19 after Pregnancy and Its Relationship with Breastfeeding. Journal of Ideas in Health. 2021;4(1), 327-333.

11. Güvenç G, Yesilcinar İ, Ozkececi F, et al. Anxiety, Depression, and Knowledge Level in Postpartum Women during the Covıd-19 Pandemic. Perspectives in Psychiatric Care. 2021;57(3):1449-1458.

12. Karkın PO, Sezer G, Şen S, Duran M. Comparison of Coronavirus-19 Phobia in Pregnant and Non-Pregnant Women. Kocaeli Med J. 2021;10(Additional Issue 2):176-180.

13. Boekhorst GBM, Muskens L, Hulsbosh PL, Deun KV, Berging B, Pop VJM, et al. The Covıd-19 Outbreak İncreases Maternal Stress During Pregnancy, But Not The Risk For Postpartum Depression. Archives Of Women's Mental Health. [Internet]. 2021 [cited 2024 aug 06];24(6). Available from: https://doi.org/10.1007/s00737-021-01104-9.

14. Demir GB, Sarıboğa Y. Coronaphobia in Nurses. Online Turkish Journal of Health Sciences. 2021. 6(3),372-381.

15. Karkın PO, Sezer G, Şen S, Duran M. Comparison of Coronavirus-19 Phobia of Women Working in the Healthcare Area and Women Outside the Healthcare Area in Demirci District. Med J West Black Sea 2021;5(2): 198-203.

16. Reck CK, Struben M, Backenstras L.,et al. Prevalence Onset and Comorbidity of Postpartum Anxiety and Depressive Disorders. Acta Psychiatr Scand 2008: 1–10.

17. Paul MS, Downs DS, Schaefer EW, Beiler J, Weisman CS. Postpartum Anxiety and Maternal-Infant Health Outcomes. Pediatrics 2013;131; 2012-2147

18. Fairbrother N, Janssen P, Antony P, Tucker E, Young AH. Perinatal Anxiety Disorder Prevalence and Incidence. Journal of Affective Disorders. King's Research Portal 2016;148-155.

19. Field T. Postnatal Anxiety Prevalence, Predictors and Effects on Development: A Narrative Review. Infant behav dev. [Internet]. 2018 [cited 2024 aug 06];51. Available from: https://doi.org/10.1016/j.infbeh.2018.02.005.

20. Bayrı Bingöl F, Demirgöz Bal M. Factors Affecting Postpartum Maternal Anxiety and Attachment. doi:10.17942/sted.887220. 2021:60-68.

21. Yalçın H, Kaya Ş. Investigation of Anxiety Levels and Emotion Regulation Skills of Mothers who gave birth during the Covid-19 Pandemic Process. International Social Sciences Studies Journal. ISSN:2587-1587. Vol:6, Issue:65; 2778-278.