



Relationship Between Mothers' Anxiety Levels and Discharge Readiness in the Early Postpartum Period After Vaginal Delivery

Erken Postpartum Dönemde Annelerin Vajinal
Doğum Sonrası Anksiyete Düzeyleri ile Tabuculuğa
Hazır Oluşlukları Arasındaki İlişki

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Makale Bilgisi/Article Information

Makale Türü/Article Types: Araştırma Makalesi/Research Article

Geliş Tarihi/Received: 27 Mayıs/May 2022

Kabul Tarihi / Accepted: 25 Şubat/February 2023

Yıl/Year: 2023 | **Cilt – Volume:** 8 | **Sayı – Issue:** 1 | **Sayfa/Pages:** 129-140

Atıf/Cite as: Aksu, A., Buldum, A., Değirmenci, F. and Vefikuluçay Yılmaz, D. "Relationship Between Mothers' Anxiety Levels and Discharge Readiness in the Early Postpartum Period After Vaginal Delivery" Journal of Samsun Health Sciences 8(1), April 2023: 1129-140.

Sorumlu Yazar / Corresponding Author: Aslıhan AKSU

Yazar Notu/Author Note: "This study was presented as a verbal presentation at the 1st International Nursing Congress (INCARE) held in Gaziantep between November 1-3, 2019."

RELATIONSHIP BETWEEN ANXIETY LEVELS AND DISCHARGE READINESS IN THE EARLY POSTPARTUM PERIOD AFTER VAGINAL DELIVERY

ABSTRACT

Aim: The present study aimed to determine whether there was a relationship between anxiety and discharge readiness during early postpartum period in women who had given birth via vaginal delivery.

Method: The sample of study consisted of 93 mothers hospitalized in our postpartum ward after vaginal delivery. Research data were collected using “Personal Information Form”, “State scale of the State-Trait Anxiety Inventory(STAI)” and “Readiness for Hospital Discharge Scale–New Mother Form(RHD-NMF)”. Descriptive statistics, Student’s t-test, one-way analysis of variance (ANOVA), Tukey’s test and Pearson’s correlation coefficients were used in evaluation of the data.

Results: The mean age of the mothers included in the study was 25.37 ± 5.40 years. The mean STAI and RHD-NMF scores of the mothers were 35.15 ± 9.59 and 145.64 ± 32.35 , respectively. It was determined that 11.8% of mothers were not ready for discharge and 39.8% had anxiety. A statistically significant moderate negative correlation was found between STAI and RHD-NMF scores ($r = -0,445$; $p < 0,001$).

Conclusions and Suggestions: In the present study, it was found that increased anxiety levels of mothers decreased their readiness for discharge. In this respect, it is recommended to evaluate the anxiety levels of mothers before discharge training in the early postpartum period and to provide the necessary nursing care for their readiness for discharge.

Keywords: Postpartum Period; Mothers; Anxiety; Discharge; Nursing Care.



ERKEN POSTPARTUM DÖNEMDE ANNELERİN VAJİNAL DOĞUM SONRASI ANKSİYETE DÜZEYLERİ İLE TABURCULUĞA HAZIR OLUŞLUKLARI ARASINDAKİ İLİŞKİ

ÖZ

Amaç: Bu araştırmada vajinal doğum yapmış annelerin anksiyete düzeyleri ile taburculuğa hazır olma durumları arasındaki ilişkinin belirlenmesi amaçlanmıştır.

Yöntem: Araştırmanın örneklemini vajinal doğum sonrası postpartum servisinde yatan 93 anne oluşturmaktadır. Araştırma verilerinin toplanmasında “Kişisel Bilgi Formu”, “Durumluk Kaygı Ölçeği” (DKÖ) ve “Hastane Taburculuğuna Hazır Oluşluk Ölçeği-Yeni Doğum Yapmış Anne Formu” (HTHÖ-YDAF) kullanılmıştır. Verilerin değerlendirilmesinde tanımlayıcı istatistikler, Student t testi, Tek Yönlü Varyans Analizi, Tukey testi ve Pearson Korelasyon Katsayısı kullanılmıştır.

Bulgular: Araştırmada annelerin yaş ortalamaları $25,37 \pm 5,40$ bulunmuştur. Annelerin DKÖ ve HTHÖ-YDAF puan ortalamaları sırasıyla $35,15 \pm 9,59$ ile $145,64 \pm 32,35$ 'dir. Araştırmaya katılan annelerin %11,8'nin taburculuğa hazır olmadıkları ve %39,8'nin kaygı yaşadığı belirlenmiştir. Annelerin DKÖ ile HTHÖ-YDAF toplam puan ortalamaları arasında ise istatistiksel olarak anlamlı orta düzeyde negatif yönde bir ilişki bulunmuştur ($r = -0,445$; $p < 0,001$).

Sonuçlar ve Öneriler: Bu çalışmada annelerin kaygı düzeylerinin artmasının taburcu olmaya hazır oluşlarını azalttığı bulunmuştur. Bu doğrultuda postpartum erken dönemde annelerin taburculuk eğitimi öncesi kaygı düzeylerinin değerlendirilmesi ve taburculuğa hazır oluşlukları için gerekli hemşirelik bakımının sağlanması önerilmektedir.

Anahtar Kelimeler: Postpartum dönem; Anne; Anksiyete; Taburculuk; Hemşirelik bakımı.



INTRODUCTION

The postpartum period is a sensitive period in which family dynamics are re-organized and new roles and responsibilities are acquired (Dag et al., 2013). It has been reported that 1 out of every 10 women experience postpartum anxiety or depression and the prevalence of anxiety during hospital stay is higher than depression (Paul et al., 2013; Pawluski et al., 2017). Postpartum anxiety negatively affects self-confidence, body image and the ability to cope with stress. Postpartum anxiety also creates potential risks in the development of the child by causing problems in parenting behavior and the maternal-infant attachment (Bernstein et al., 2013; Tietz et al., 2014). It has been found that postpartum anxiety reduced breastfeeding times and increased readmission frequency after discharge (Paul et al., 2013). In the study of Bernstein et al. (2013), it was determined that not being ready for discharge after birth was significantly associated with increased readmission rate and health problems.

It was emphasized that mothers and their babies who will move from the hospital to the home environment should be ready for discharge in order to ensure

their safety, and physical, mental and social health (including effective nutrition, vaccination schedule, symptoms of jaundice, etc.) (Weiss et al., 2006; Jing et al., 2017). There are very few studies in the literature that deal with postpartum anxiety in the context of readiness for discharge. In Britton and colleagues' study (2005), it was observed that mothers who stated they were unready for discharge had higher anxiety levels than those who were ready for discharge –despite the lack of statistical significance in the comparisons. In the study by Dennis et al. (2017), the mother's feeling towards her readiness for discharge was shown among the factors that was significantly influential on postpartum anxiety in the long term.

Studies indicate that mothers' readiness for discharge is affected by factors such as the number of living children, the number of pregnancies, delivery type, social support and security status, and economic status (Jing et al., 2017; Malagon-Maldonado et al., 2017; Senol et al., 2017; Yanikkerem et al., 2018). In a study by Malagon-Maldonado et al. (2017), it was emphasized that discharge training given by nurses is an important factor for the readiness of mothers for discharge. One of the vital roles and responsibilities of nurses in the maintenance of mother and baby health is training the mother for discharge, as well as puerperal monitoring and breastfeeding training/monitoring. The anxiety levels of individuals participating in training is one of the factors related to the effectiveness of training, since high anxiety may cause distraction and reduce the effectiveness of discharge training. As such, it has been shown that it is useful to ascertain anxiety levels before training (Alkan, 2016). This study aimed to determine the relationship between the mothers' anxiety levels who gave birth via vaginal delivery and their readiness for discharge in the early postpartum period, with an aim to increase the effectiveness of discharge training and to present novel information about the physical and mental health of mothers in the postpartum period.

Research Question

Is there a relationship between anxiety and discharge readiness during early postpartum period in women who gave vaginal delivery?

MATERIALS AND METHODS

Study Design

The present study is a cross-sectional study.

Setting

The study sample was comprised of mothers who were hospitalized in the postpartum ward after vaginal delivery from April 1st 2019 to May 20th 2019 in the Department of Obstetrics and Gynecology of a training and research state hospital.

Participants and Sampling

The minimum sample size required for appropriate analysis of the study aim was calculated by the G*Power version 3.1.9.4 software (Faul et al., 2009). With a statistical power of 80% and margin of error of 0.05 (5% alpha error), we calculated that a count of 67 total subjects was the minimum required for the detection of a moderate effect magnitude of 0.3 between State scale of the State-Trait Anxiety Inventory (STAI) and Readiness for Hospital Discharge Scale - New Mother Form (RHD-NMF) scores. A total of 93 mothers were included in the study. The mothers who had a vaginal delivery, were with their babies after delivery, had no postpartum complications, and agreed to participate in the study were included in the study. The data were collected by the face-to-face interview method. The implementation of the data collection forms took approximately 25 minutes for each subject. The power of the present study was found to be 0.90 at 0.3 effect size.

Instruments

The research data were collected using Personal Information Form, STAI and RHD-NMF.

Personal Information Form: The personal information form created by researchers based on the relevant literature included a total of 10 questions regarding some socio-demographic and obstetric characteristics such as age, education level, working status, family type, social security status, perceived income level, gravidity and parity status, whether the pregnancy was planned or not, presence/absence of antenatal care (Dennis et al., 2017; Donmez et al., 2014; Erdem et al., 2010; Fonseca et al., 2018; Golbasi, 2003; Liabsuetrakul et al., 2007; Turkmen & Ozbasaran, 2017,).

State-Trait Anxiety Inventory (STAI): In order to determine state anxiety levels, the STAI developed by Spielberger et al. (1964) was used. The validity and reliability studies of the Turkish version of this scale were conducted by Öner and Le Compte. This scale consists of 20 items aiming to determine how an individual is feeling at the given moment. Each item is scored on a 4-point Likert scale from 1 to 4 points (never-complete) according to the intensity of the emotions. While the minimum score of the scale is 20, the maximum score is 80. It is considered that there was no anxiety in those with STAI scores of 36 and lower, there is mild anxiety in those with scores between 37-41 and high anxiety in those with scores of 42 and above. Test-retest-reliability coefficients of STAI were 0.16 and 0.54, while the internal consistency and test homogeneity coefficients were 0.83 and 0.92 (Le Compte & Oner 1976). The Cronbach's α value of the scale was found to be 0.88 in the current study.

Readiness for Hospital Discharge Scale - New Mother Form (RHD-NMF): The RHD-NMF, developed by Weiss and Piacentine (2006), is used to determine state of readiness for postpartum discharge. The validity and reliability studies of the Turkish version of this scale were conducted by Akin and Sahingeri (2010). This scale consists of 23 items divided into 4 sub-dimensions and is aimed at evaluating the mother's perception towards readiness for hospital discharge. The first item of this scale is related to the mother's state of being ready for the planned discharge and is answered dichotomously (yes / no) and is not included in the scoring. Other items (2–23) in this scale are scored in an 11-point (0-10) Likert scale. While the minimum score obtainable is 0, the maximum is 220. In this scale, mothers' readiness for discharge is defined to be positively correlated with RHD-NMF score. Akin and Sahingeri (2010) reported the Cronbach's α value was found to be 0.89 (Akin & Sahingeri, 2010). In the present study, the Cronbach's α value was found to be 0.88.

Ethical Considerations

The research was approved by the Mersin University ethics review board (decision no: 2019/020, date: 27 March 2019). Verbal and written informed consent was obtained from the mothers in the study. We used the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist to report our findings.

Statistical Analysis

The Shapiro-Wilk test was used to check the normality of distribution of the data, and the Levene's Test was used to control the homogeneity of variance. The Student's t-test was used for two-group comparisons and one-way analysis of variance (ANOVA) was used to compare three or more groups with Tukey's test employed for multiple comparisons. The relationship between two continuous variables was investigated by calculation of Pearson's correlation coefficient (r). The number (count), percentage, mean and standard deviation values from descriptive statistics were used to present the data. A p-value less than 0.05 was accepted as the threshold for statistical significance in all tests.

RESULTS

Table 1. Sample Description (n=93)

	n	%
Educational Level		
Illiterate	10	10.8
Literate	9	9.7
Primary School	24	25.8
Secondary School	28	30.1
High School	15	16.1
Bachelor's Degree or Above	7	7.5
Working Status		
Working	9	9.7
Not Working	84	90.3
Family Type		
Nuclear Family	61	65.6
Extended Family	32	34.4
Social Security Status		
Yes	64	68.8
No	29	31.2
Perceived Income Level		
Lower Than the Expenditure	43	46.2
Equal to (or Higher Than) the Expenditure	50	53.8
The Status of Pregnancy in Respect of Being Planned		
Planned	75	80.6
Not Planned	18	19.4
The Status of Receiving Antenatal Care		
Received	74	79.6
Not received	19	20.4

The mean age of the mothers was 25.4 ± 5.4 years. The mean gravidity and parity were recorded as 2.5 ± 1.5 ; 2.1 ± 1.2 respectively. Other descriptive characteristics of the mothers are given in Table 1.

Table 2. Distribution of The STAI and RHDS-NMF Scores of The Mothers

SCALES	Item Number	Min.-Max.	±SS	Cronbach α
STAI	20	20-62	35.15±9.59	0.881
RHDS-NMF	22	64-207	145.64±32.53	0.889

The mean STAI score of the mothers was 35.15 ± 9.59 , and the mean RHD-NMF score was 145.64 ± 32.53 (Table 2).

Table 3. Mothers' Anxiety Levels and Readiness for Discharge (n=93)

Anxiety Levels*	STAI				RHD-NMF	
	n	%	± SS	p	± SS	p
No Anxiety (a)	56	60.2	28.44 ± 4.36		153.64 ± 29.82	
Mild Anxiety (b)	11	11.8	38.81 ± 1.72	< 0.001	148.09 ± 25.66	0.002
High Anxiety (c)	26	28.0	48.03 ± 4.03		127.38 ± 33.76	
Tukey's HSD			a-b, a-c, b-c		a-c	
Feeling Ready for Discharge**						
Those Who Feel Ready	82	88.2	34.47 ± 9.02	0.170	148.52 ± 31.28	0.018
Those Who Don't Feel Ready	11	11.8	40.18 ± 12.48		124.18 ± 33.63	

*ANOVA; **Student's t-test.

It was found that 60.2% of mothers in this study had no anxiety, 11.8% had mild anxiety, 28% had high anxiety. It was noted that 88.2% had indicated that they were ready for discharge (Table 3).

Table 4. Relationship Between STAI and RHD-NMF Scores in Mothers (n=93)

Scales	Item No	Min-Max	± SD	Cronbach's α	STAI (r)	RHD-NMF (r)
STAI	20	20-62	35.15 ± 9.59	0.881	1	-
RHD-NMF	22	64-207	145.64 ± 32.53	0.889	-0.445*	1

r, Pearson's correlation coefficient; * $p < 0.001$.

The difference between the mean RHD-NMF and STAI scores according to the anxiety levels of the mothers was found to be significant ($p < 0.05$). There was an inverse correlation between anxiety levels and RHD-NMF scores ($p < 0.05$). Readiness for discharge and RHD-NMF scores were correlated ($p < 0.05$). There was no significant difference between readiness for discharge and STAI scores ($p > 0.05$) (Table 1). A statistically significant moderate negative relationship was found between STAI and RHD-NMF scores ($r: -0.445, p < 0.001$) (Table 4).

DISCUSSION

It was determined that approximately 40% of the mothers participating in our research had mild or high levels of anxiety. A review article by Field et al. (2017) reported that the incidence of postpartum anxiety was between 13–40%, supporting our findings. Maternal anxiety in the postpartum period is a well-known phenomenon, and has received particular interest from researchers (Akbayrak 2014; Britton, 2005; Erdem et al., 2010; Kaplan et al., 2007; Matthies et al., 2019; Yildiz & Dennis et al., 2017). It is known that postpartum anxiety causes problems in the parenting behavior of mothers and maternal-infant attachment and negatively affects the health conditions of both themselves and their babies (Goodman et al., 2016; Tietz et al., 2014). Postpartum anxiety can also reduce the effectiveness of discharge training. Accordingly, our results demonstrating that two out of every five mothers experience anxiety in the postpartum period, clearly reveals the importance of evaluating the anxiety levels of mothers before discharge and the need for practices to reduce anxiety.

The findings of the present study also show that 11.8% of the mothers were not ready for discharge. Consistent with this, similar studies have shown that the rate of mothers who perceive themselves to be unready or unprepared for discharge ranges between 5.7–21.7% (Akin & Sahingeri 2010; Celik et al., 2014; Erenoglu & Baser, 2017; Senol et al., 2017; Yanikkerem et al., 2018; Weiss & Piacentine, 2006). This result suggests that standard discharge training is insufficient and cannot (or is not) effective in all mothers. Being ready for discharge, which also means feeling ready to go home, is important in protecting and maintaining the health of mothers, newborns and other family members in the home environment in the postpartum period (Kortilla, 1991; Weiss et al., 2006). Therefore, this result reveals the importance of determining the readiness of all mothers for discharge in the postpartum period and determining the need for individual approaches to discharge training according to the needs of mothers.

The present study determined that mothers' socio-demographic and obstetric characteristics, such as age, employment status, education level, family type (living with or without extended family), number of pregnancies and deliveries, whether the pregnancy was planned or not, having received antenatal care or information

about pre-discharge care, were not effective on anxiety levels and the mothers' readiness for discharge ($p > 0.05$). Some of the findings of the studies on this subject are partially similar to our findings (Celik et al., 2014; Dag et al., 2013; Erenoglu and Baser, 2017; Kaplan et al. 2007; Yanikkerem et al., 2018). The lack of relationships with such characteristics is critical and demonstrates that all mothers are at risk in terms of experiencing anxiety, and therefore, may in fact be unready for discharge in the early postpartum period even if training is provided in a standard fashion. It is important to note that the effects/expectations of other family members and the fact that the majority of subjects had experienced at least one previous birth (in this study group), may have been factors that further burdened the mothers, causing a reluctance to accept that they may need further support. Early postpartum period is a critical period in which mothers feel inadequate in baby care and in their role as a mother as well as a wife (Beydag, 2007). For this reason, it is important that all mothers, regardless of their socio-demographic and obstetric characteristics, meet their health care needs during the hospital stay in cases of anxiety and lack of readiness for discharge.

Some similar studies have reported interesting outcomes, including the fact that being ready for discharge was identified as a cause for anxiety (Darvill et al., 2010; Dennis et al., 2017; Donmez et al., 2014; Erdem et al., 2010; Fonseca et al., 2018). Contrary to these studies, there was no significant difference between mothers who were ready for discharge and mothers who were not ready ($p > 0.05$), while mothers with high anxiety levels had significantly lower levels of readiness for discharge ($p < 0.05$), in our study. It is plausible to suggest that the former finding may be associated with disproportionate distribution of the groups and also the family- and expectation-based burdens of the mothers. In relation to these results, another finding in our study was that anxiety levels were inversely correlated to discharge readiness ($r = -0.445$, $p < 0.001$). These findings recommend that the anxiety experienced by mothers may exist before discharge and postpartum anxiety should be evaluated during the nursing process. In addition, evaluating mothers for anxiety in the postpartum period and nursing interventions can increase the effectiveness of discharge training –which will contribute to the preparation of mothers for discharge.

CONCLUSIONS

In conclusion, the present study determined that two-fifths of mothers in the early postpartum period experienced anxiety, 11.8% were not ready for discharge. However, readiness for discharge was inversely correlated with anxiety levels. Adverse effects of postpartum anxiety on maternal and infant health are well-known. It is also evident that being unready for discharge in mothers will disrupt their adaptation to their new roles and responsibilities, leading to problems in baby care,

re-emergence of hospitalization need, and further undesirable situations. In order to prevent such outcomes, in line with the results we obtained in our study, the following are recommended in the early postpartum period:

- The anxiety levels of mothers should be evaluated and nursing care should be provided accordingly,
- Unlike standard training, discharge training should be individualized according to the needs of each mother,
- In order to increase the effectiveness of discharge training, anxiety levels should be determined.

Acknowledgements

The authors thank all mothers for their assistance with data collection.

Funding Source

This study has not been financed by any institution or organization.

Conflict of interest

The authors report there are no competing interests to declare.

Data availability statement

Data available on request from the authors.

Author Contribution Rates

Çalışmanın Tasarlanması (Design of Study): AA (%30), AB (%30), FD (%30)
DVY (%10)

Veri Toplanması (Data Acquisition): AA (%50), AB (%50)

Veri Analizi (Data Analysis): FD (%80), AA (%10), AB (%10)

Makalenin Yazımı (Writing Up): AA (%25), AB (%25), FD (%25), DVY (%25)

Makale Gönderimi ve Revizyonu (Submission and Revision): AA (%50)
AB (%30), FD (%10), DVY (%10)

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