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The Relationship between Postnatal Attachment and Fear of Childbirth

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ABSTRACT

Background & aim: The aim of this study was to investigate the relationship between mother-infant attachment and fear of childbirth in the postpartum period.

Methods: The data of this cross-sectional study were collected from 142 puerperal women who attended Kağızman Şahindere Family Health Center No. 1 and 2, Kars/Turkey and had a normal spontaneous birth between 2017 and 2019. The questionnaire developed by the researcher, WIJMA Birth Expectation/Experience Scale Version B and Mother-Infant Attachment Scale were used to collect data. Kolmogorov-Smirnov test for normal distribution eligibility tests, Shapiro-Wilk test, Independent Samples T test after eligibility, One-Way Anova Tukey test, Kruskal Wallis H test, Pearson Correlation, and Bonferroni post-hoc test in dependent and independent variables were used to analyze data.

Results: While the total average score of puerperal women from the WIJMA Birth Expectation/Experience Scale was 86.83+28.23, the total average score they received from the Mother-infant Attachment Scale was 9.40+2.21. There was a moderately positive significant relationship between the scores puerperal women received from the WIJMA Birth Expectation/Experience Scale and the Mother-infant Attachment Scale ($p<0.05$). It was found that the higher the score on the WIJMA Birth Expectation/Experience Scale, the higher the score on the Mother-Infant Attachment Scale.

Conclusion: It was found that as the fear of childbirth increased, the mother-infant attachment decreased. So it could be suggested that the pregnant women should be directed to the childbirth preparation classes to prevent negative effects on the postnatal attachment level of women due to their fear of childbirth.

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Introduction

According to the definition of the Turkish Language Association, fear averages anxiety and sadness felt in the face of a danger or danger thought (www.tdk.gov.tr, Access date: 05.01.2012). Fear is also called uncertainty and lack of control.

Birth is a process in which uncertainties are experienced, and these uncertainties regarding the progress of the process can cause fear (1). The fear of childbirth is very common situation seen in the women (2, 3). The fear of childbirth is a serious problem as it can negatively affect the pre-pregnancy, pregnancy and post-pregnancy periods of the woman (4). The fear of death during the birth occurs before the pregnancy and if this fear reaches pathological dimensions, it is called "tokophobia" and this situation can affect all women from childhood to old age (5).

Tokophobia is divided into three including primary tokophobia starting before pregnancy, secondary tokophobia as a symptom of a depression that occurs after a traumatic birth and accompanies pregnancy depression, and tokophobia (5). It was determined that 80% of the women had some fears regarding the birth (5).

The fear of childbirth can negatively affect the psychosocial health, birth and puerperal period

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during the pregnancy. If the pregnant woman has an extreme fear of childbirth at the time of birth, it can cause an increase in the intensity of felt birth contractions, ineffective contractions at the time of birth, and prolonged birth due to the ineffective contraction. In the puerperal period, it is stated that the fear of childbirth causes negative psychiatric effects, sexual disorders and negative thoughts regarding the subsequent births, and problems in mother-infant attachment (6, 31).

Attachment is a reciprocal relationship that is emotionally dominant and expected to be (7). The mother-infant attachment is a process that starts with the pregnancy and continues after the pregnancy. The attachment between the mother and infant before and after the birth is very important for the infant to continue his life in a healthy way as physically, emotionally and spiritually (8). The fear of childbirth is associated with the mother-infant attachment. It is stated that the fear negatively affects the adaptation to the parenting role and mother-infant attachment in the puerperal period (1, 32, 33).

Fear of childbirth is common among women. It is known that the fear of childbirth negatively affects the health of women and babies. The aim of this study was to investigate the relationship between the fear of childbirth and postnatal attachment.

Materials and Methods

This research was a cross-sectional type of research. The research was carried out in the Kağızman Şahindere Family Health Center No. 1 and 2, Kars/Turkey between 25.10.2017 – 10.4.2019. The target population of the study consisted of 185 puerperal women who attended Kars Kağızman Şahindere Family Health Center No. 1 and 2 and had a normal spontaneous delivery. The sample size was calculated using the formula of which target population number was known. When the sample of the study was calculated, it was determined that it should consist of at least 125 people; however, in the study, more puerperal women were reached and the data collection process was completed with 142 puerperal women. The inclusion criteria were determined as the puerperal women, who had given birth vaginally, communicated, was not experienced difficulty, did not have a risky newborn, did not take analgesics during the birth process, and volunteered to participate in the study.

A questionnaire containing socio-demographic characteristics, WIJMA Birth Expectation/Experience Scale B Version and Mother-Infant Attachment Scale were used to collect the research data.

Demographic questionnaire: A questionnaire with 13 questions was created by the researcher by scanning the literature in order to determine the demographic characteristics of the puerperal women (9, 10).

WIJMA birth expectation/experience scale (W-DEQ) version B: It was developed by WIJMA et al. to determine the fear of childbirth (11). The Turkish validity and reliability study of the scale was carried out by Uçar in our country, and the cronbach's alpha value of the scale was found to be 0.88. The responses on 33-item scale including fear, loneliness, joy, and confidence were numbered from 1 to 6, and this is a six-point Likert scale. While 1 is expressed as “totally”, 6 are stated “not at all”. While the minimum score that can be obtained from the scale is 33, the maximum score is 198. Obtaining high score by the women on this scale indicate that they have a high fear of childbirth (9). Uçar collected the WIJMA Birth Expectation/Experience Scale Version B scores in four subgroups. These are those with a low degree of the fear of childbirth (W-DEQ ≤37), those with moderate fear of childbirth (with a W-DEQ score of 38-65), women with severe fear of childbirth (W-DEQ score 66-84), and women with clinical fear of childbirth (W-DEQ score ≥ 85) (9).

Mother-infant attachment scale (MIAS): The Mother-Infant Attachment Scale was developed by Taylor et al. in 2005, and the name of the scale is 'Mother-to-Infant Attachment Scale' (12). The Turkish validity and reliability study of the scale was carried out by Karakulak, and the cronbach's alpha coefficient was found as 0.69 within one day after the birth and as 0.68 within 8-12 weeks after the birth. The Mother - Infant Attachment Scale allows the mother to express her feelings towards her infant in one word and can be applied starting from the first day after the birth. The scale consists of 8 items, the scores consisting of four options were

numbered from 0 to 3, and this is a 4-point Likert scale. The lowest score that can be obtained from the scale is 0, and the highest score is 24 (13). The Mother - Infant Attachment Scale allows the mother to express her feelings towards her infant in one word and can be applied from the first day after birth. The scale consists of 8 items and consists of four options, the scores are numbered from 0 to 3, and it is a 4-point Likert scale. The lowest score that can be obtained from the scale is 0, and the highest score is 24. In the evaluations of the scale, the 1st, 4th, and 6th items contain positive emotional expressions and are scored as 0, 1, 2, 3, while the 2nd, 3rd, 5th, 7th and 8th items contain negative emotional expressions and 3, 2, 1, 0 is scored by turning it in the opposite direction (13).

A survey form including socio-demographic characteristics developed by the researcher, WIJMA Birth Expectation/Experience Scale (W-DEQ) Version B and Mother-Infant Attachment Scale (MIAS) were applied to the puerperal women who accepted the study by face-to-face interview method. The filling-out time of the surveys and scales took an average of 15 minutes.

The data obtained from the research were evaluated with the SPSS 24 package program in computer environment. In the analysis of all data of the research, the descriptive statistics indicating numbers and percentages were benefited. First of all, the compliance tests to the normal distribution for the data used (Kolmogorov-Smirnov test, Shapiro-Wilk test) were made. The Independent Samples T test, One-Way Anova, Tukey test and Kruskal Wallis H test were used after it was determined that the data conformed to the normal distribution. In cases where there was a statistically significant difference as a result of the comparison of the independent and dependent variables, the search for the variable causing the difference was done with the Bonferroni post-hoc test. The Pearson correlation analysis was applied to determine the relationship between the WIJMA Birth Expectation/Experience Version B and Mother-Infant Attachment Scales used in the study. The statistical significance of the results in the comparison of the groups was evaluated at the $p<0.05$ level.

Before starting the research, necessary permissions were obtained from the Ethics Committee of Turkey, Kars Kafkas University Faculty of Medicine (No: 80576354-050-99/171) and the institution where the research would be conducted.

Necessary permissions were obtained from the individuals who adapted the Wijma Birth Expectation/Experience Scale and Mother-Infant Attachment Scale to Turkish.

Written informed consent was obtained from the puerperal women who agreed to participate in the study, and data were collected based on self-report.

Results

The total average score of the puerperal women from the WIJMA Birth Expectation/Experience Scale was 86.83+28.23. More than half of the puerperal women (n = 76, 53.5%) had clinical fear of childbirth. Those having least (n = 2, 1.5%) had low level of fear of childbirth (Table 1).

The total average score of the puerperal mothers from the Mother -Infant Attachment Scale was 9.40+2.21.

Table 1. Distribution of the Socio-Demographic and Obstetric Characteristics of the Puerperal Women (N=142)

Characteristics	N (%)
Age	
17-24	50 (35.2)
25-32	48 (33.8)
33 ve above	44 (31.0)
Average age	28.01±7.03
Educational Status	
Primary school	31 (24.8)
Secondary school	95 (66.9)
High school and above	16 (11.3)
Working Status	
Not working	142 (100)
Family type	
Elementary family	52 (36.6)
Extended family	90 (63.4)
Number of Pregnancy	
1-2	59 (41.5)
3-4	43 (30.3)
5 and above	40 (28.2)
Average number of pregnancies	3.54±2.29
Number of Birth	
1-2	72 (50.7)

Characteristics	N (%)
3-4	42 (29.6)
5 and above	28 (19.7)
Abortion Number	
None	103 (72.5)
1	29 (20.4)
2 and above	10 (7.1)
Number of curettage	
None	129 (90.8)
1 and above	13 (8.2)
Desired Status of Pregnancy	
Wanted	112 (78.9)
Not wanted	30 (21.1)
Status of Obtaining Prenatal Information	
Yes	101 (71.1)
No	41 (28.9)
Person Received Information (n: 101)*	
Health employee	94 (75.2)
Friend and relative	13 (10.4)
Media and internet	18 (14.4)

* More than one answer was given

It was determined that there was a moderately positive and statistically significant correlation between the scores of puerperal women from the WIJMA Birth Expectation/Experience Scale and the Mother-Infant Attachment Scale (p<0.05). While a high score on the WIJMA Birth Expectation/Experience Version B Scale indicates high fear, a high score on the Mother-Infant Attachment Scale averages low attachment. Therefore, it was found that as the fear of childbirth increased, the level of mother-infant attachment decreased (Table 2).

Table 2. The WIJMA Birth Expectation/Experience B Version Scale Levels of the Puerperal Women

Level	N (%)
Low	2 (1.5)
Medium	35 (24.6)
Heavy	29 (20.4)
Clinic	76 (53.5)
Total	142 (100.0)

It was determined that there was a statistically significant difference between the average scores of the WIJMA Birth Expectation/Experience Scale according to the education level, and this difference was caused by the puerperal women who received high school or higher education (p<0.05). It was seen that the average scores of the WIJMA Birth Expectation/Experience Scale increased as the education level increased.

Table 3. Relationship between the Average Scores of the Puerperal Women from the WIJMA Birth Expectation/Experience Version B Scale and Mother-Infant Attachment Scale (n= 142) (Correlation of Scales)

Name of Scale	Mother - Infant Attachment Scale	
	r_s	*P*
WIJMA Birth Expectation/Experience B Version Scale	0.369**	0.000

It was determined that the puerperal women who did not want pregnancy had higher WIJMA Birth Expectation/Experience Scale score averages and the difference between the groups' average scores was statistically significant (*p*<0.05) (Table 4).

There is a significant difference between the mother-infant attachment scale scores according to the number of pregnancies (p< 0.05). According to the post-hoc test made, the mother-infant attachment levels of those with 5 or more pregnancies are lower than those with both 1-2 and 3-4 pregnancies. No significant difference was found according to the number of birth (p> 0.05). According to the number of abortions, a significant difference was found in the mother-infant attachment levels of the puerperal women (p< 0.05). The mother-infant attachment levels of those with 1 abortion number are lower than those who have no abortion number. The mother-infant attachment levels of the puerperal women differ significantly according to their prenatal information (p< 0.05). The mother-infant attachment levels of those who did not receive prenatal information were higher than those who received information (Table 4).

Table 4. Comparison of the Average Scores of the WIJMA Birth Expectation/Experience B Version Scale and Mother-Infant Attachment Scale According to Socio-Demographical and Obstetric Characteristics of the Puerperal Women (n= 142)

Characteristics	N	W-DEQ-B	MIAS Point
Age		**$\bar{X}$± SD**	**$\bar{X}$± SD**
17-24	50	85.06 ±30.65	9.28±2.18
25-32	48	91.81±26.74	9.19±2.35
33 and above	44	83.40± 26.79	9.27±2.07
Test*		**p=0.313 f=1.172**	**p=0.402 f=0.918**
Educational Status			
Primary school	31	82.58±27.76	9.71±2.45
Secondary school	63	85.24±28.21	9.41±2.32
High school and above	48	104.50±23.99	9.19±1.89
Test*		**p=0.025 f=3.3779**	**p=0.594 f=0.523**
Family type			
Elementary family	52	84.55+28.93	9.29+2.05
Extended family	90	88.14+27.89	9.47+2.30
Test**		**p=0.312 t=1.028**	**p=0.645 t=-0.461**
Number of Pregnancy			
1-2	59	88.03+30.20	9.17+2.19
3-4	43	86.72+24.49	9+1.93
5 and above	40	85.17+29.55	10.18+2.37
Test*		**p=0.886 f=0.121**	**P=0.030 f=3.306**
Number of Birth			
1-2	72	87.58+29.97	9.28+2.27
3-4	42	83.73+26.19	9.10+1.80
5 and above	28	89.53+27.08	10.18+2.48
Test*		**p=0.669 f=0.403**	**P=0.106 f=2.283**
Abortion Number			
None	103	86.10+27.61	65.36
1	29	87.03+28.02	88.22
2 and above	10	93.70+36.64	86.25
Test*		**p=0.721 f=0.328**	**p=0.012 H=10.403**
Number of curettage			
None	129	86,51+28.70	70.31
1 and above	13	89,92+23.78	83.35
Test**		**p=0.107 t=2.626**	**p=0.225 U=684.50**
Desired Status of Pregnancy			
Wanted	112	85.45+26.69	22.74+2.03
Not wanted	30	91.96+21.55	22.06+2.75
Test**		**p=0.014 t=6.227**	**P=0.139 t=-1.489**
Status of Obtaining Prenatal Information			
Yes	101	90,85+27,83	9.64+2,33
No	41	76,92+27,03	8.80+1.78
Test**		**p=0.509 t=0.438**	**p=0.023 t=2.318**

*One – Way ANOVA test / Kruskal Wallis H ** Independent Samples T test / Mann Whitney U

Discussion

The mother-infant attachment begins with the pregnancy, increases gradually throughout the pregnancy and at birth, and is strongest when contact with the infant is made. The mother-infant attachment is of vital importance as it affects the development of the infant and its whole life. However, the fear of childbirth can cause negativities in the mother-infant interaction. Therefore, midwives have important responsibilities in this regard. Because the midwives are one of the health employees who are closest to the mother before, during and after the birth. The midwives should

help in initiating and maintaining the formation of love in the attachment process with a conscious midwifery approach between the mother and infant (13, 14, 30).

Saisto et al. (15) found that the women who did not have fear of childbirth had a higher pain tolerance and experienced less pain in birth than the women who did. Saisto (16) determined that the women without fear of childbirth had shorter first and second phases of the birth and were more satisfied with their birth experience than those with fear. At the same time, there are studies showing that the fear of childbirth may cause delivery with cesarean (2, 17, 18). In this study, the average score of the puerperal women from the WIJMA Birth Expectation/Experience Scale score was found to be 86.83+28.23, and it was determined that the puerperal women experienced fear of childbirth at a clinical level. More than half (53.5%) of the puerperal women have clinical fear of childbirth. There are those who have at least (1.5%) low level of fear of childbirth. In the study of Uçar (9), it was stated that 38% of the puerperal women had moderate, 23.7% had severe and 14.6% had clinical fear of childbirth. This result shows us that every woman experiences fear of childbirth at different rates.

The total average score of the puerperal mothers from the Mother-Infant Attachment Scale was found to be 9.40+2.21. Considering the cut-off scores of the study, it was determined that the level of mother-infant attachment was very high (136 people) and very (6 people). In the study of Karakulak (13), while it was determined that the Mother-Infant Attachment Scale score of the puerperal infants was 14.9 within the first day, it was found to be 14.6 within 10 weeks. These results show similarity and indicate that the mother-infant attachment is very high.

Although the history of attachment theory goes back to ancient times, the studies on the mother-infant attachment are relatively new. Although the studies were carried out on the attachment such as socio-economic level, the time it took to hold their babies in their arms after the birth and the way they were addressed to the infant; the number of studies investigating the relationship between the fear of childbirth and mother-infant attachment is insufficient.

In the research, a moderately positive and significant correlation was found between the WIJMA Birth Expectation/Experience Scale score and the Mother-Infant Attachment Scale score. As the WIJMA Birth Expectation/Experience Scale score increases in the puerperal women, the Mother - Infant Attachment Scale score also increases. In other words, as the fear of birth increases, the mother-infant attachment decreases. The reason of this makes think us that the fear of childbirth may cause problems in the mother-infant attachment.

In our research, it was determined that living children of 50.7% of the puerperal women was between 1 and 2. In the study of Körükcü (19), it was stated that living children of 90.7% of the pregnant women was between 1 to 2 children. In the study of Karakulak (13), it was determined that 39.1% of women had a pregnancy. In the research of Taylor (12), it was stated that 60% of them had their first pregnancy. The study results are similar to our research results. According to the Turkey Demographic and Health Survey (21) data, the total fertility rate for Turkey was found to be 2.26.

In the research, a significant difference was found between the education and WIJMA Birth Expectation/Experience Scale average score. The WIJMA Birth Expectation/Experience Scale average scores of the puerperal women with high school or higher education are higher than other groups. In the research of Uçar (9), it was stated that the puerperal women with high school or higher education experience more fear of childbirth. This makes think us that as the level of education increases, the women seek information and apply more to inaccurate information sources.

In the research, no significant difference was found between the education and mother-infant attachment. Similar to this study, no significant difference was found between the education and mother-infant attachment in the studies of Akkoca (22) and Dağlar (23). However, when we look at the literature, different results were encountered on this subject. It has was seen that the mother-infant attachment increases with the

increase in the education level (24) or the low education level causes problems in the mother-infant attachment. This makes think us that these differences may be due to the studied regions and social differences.

It was found that 78.9% of the puerperal women who participated in the study had wanted pregnancy. A significant difference was found between the state of not wanting pregnancy and the WIJMA Birth Expectation/Experience Scale. The fear of childbirth scale scores of the women who became pregnant voluntarily was lower. Similar to our study, in the study of Karakulak (13), it was stated that 81.7% of the pregnant women became pregnant voluntarily, and in the study of Körükcü (19), 83.9% of the pregnant women wanted the infant both by themselves and their spouses. It is known that the women with a high degree of fear of childbirth avoid from the pregnancy.

In the research, it was seen that the state of wanting pregnancy did not affect the mother-infant attachment scale score. In the research of Çankaya et al. (24), it was determined that unwanted and unplanned pregnancies negatively affect the mother-infant attachment. In the study of Yücesoy (25), it was seen that the puerperal attachment level of the women who became pregnant unintentionally was lower. These studies are inconsistent with research results. The reason for this would be that the study was conducted in Kağızman and the involuntary/unplanned pregnancies are experienced common. The midwives have important responsibilities as the physical and mental problems may increase in unwanted/unplanned pregnancies and the attachment between the mother and infant may be adversely affected.

In the research, it was stated that 71.1% of the puerperal women received prenatal information and 75.2% of them was obtained from the health employee; however, no significant difference was found between the prenatal information and WIJMA Birth Expectation/Experience Scale average score. In the research of Uçar (9), no relationship was found between receiving prenatal education and fear of childbirth. The studies made showed that receiving education during the antenatal period reduces fears because it changed false information regarding the birth (2). In the study of Kızılırmak (14), it was determined that the birth preparation education given in the last trimester reduced the fear of childbirth. In the study of Şaşmaz (26), it was determined that as the perception of being informed during the supportive care phase increased, the fear of childbirth decreased. These results are inconsistent with the research results. Anxiety increases in the case of ignorance. This situation reveals the importance of necessary information and consultancy support by the midwives to pregnant women. In the study of Şolt (27), the mother-infant attachment was found to be higher in the primiparous mothers than in the multiparous mothers. Arı (28) found in his study that the attachment decreased as the number of pregnancies and living children increased. In the study of Şolt, Kırca, and Savaşer (29); it was found that the average maternal attachment score of the primiparous mothers was higher than the average score of the multiparous mothers. Similarly, in this study, the mother-infant attachment levels of those with 5 or more pregnancies were found to be lower than those with both 1-2 and 3-4 pregnancies. This situation makes us think that as the number of children increases, the time spent with the child decreases and the interest and attachment to the child decreases.

Being the research sample consisted of 142 people, the low level of education in the region where the research was conducted, and conducting the research in a rural area limit the results of the research.

Conclusion

In line with the results of the research, it was determined that the fear of childbirth negatively affects mother-infant attachment. In line with the results of the study, it may be suggested that the pregnant women should be directed to the childbirth preparation classes in order to prevent negative effects on the postnatal attachment level of women due to their fear of childbirth. Also, the midwives should evaluate the family as a whole in order to prevent fear of childbirth, encourage and counsel women to express their thoughts, and provide family planning services to prevent unwanted/unplanned pregnancies. Additionally,

the midwives must support the mother in the development of postnatal attachment in prenatal and postnatal care services. It is suggested that the relationship between the fear of childbirth and postnatal attachment be investigated in different societies with a larger sample size.

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Conflicts of interest

Authors declared no conflicts of interest.

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