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ORIGINAL ARTICLE

The Effect of Psyco-Education Applied in Primiparal Pregnancy on Birth Fear, Prenatal Attachment and Anxiety

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Abstract

Background: Fear of childbirth during pregnancy is considered normal up to a certain level. It is important when it is experienced in a discomfortingly and affects daily life. Psychological problems such as fear of childbirth and related anxiety cause deterioration of prenatal attachment. Therefore, psychological interventions in the antenatal period are gaining more and more importance in order to protect the mental health of women.

Objectives: The aim of this study is to determine the effect of psychoeducation applied in primiparous pregnant women on fear of birth, prenatal attachment and anxiety. Research is designes as pre-test post-test intervention.

Methods: The sample of the study consists of 12 primiparous pregnant women who admitted to the obstetrics and gynecology out patient clinic. Sociodemographic Data Collection Form, Prenatal Attachment Inventory, Beck Anxiety Scale and Wijma Birth Expectation/Experience Questionnaire (W-DEQ) Version A were used to collect research data. Along with the pre-test data, 8 sessions of psychoeducation program were applied. In the analysis of the data, IBM SPSS Statistics 20.0 package program, percentage, frequency and paired sample t test were used.

Results: The difference between the mean scores of Wijma Birth Expectation/Experience Questions Version A before and after the psychoeducation program was found to be statistically significant ($p < 0.001$). The mean prenatal attachment inventory score was 49.00 ± 7.82 before the psychoeducation program. The mean score increased after the psychoeducation program and was 65.00 ± 5.92. The mean score of the beck anxiety scale before and after psychoeducation was found to be statistically significant ($p < 0.001$).

Conclusion: This study shows that psychoeducation applied to primiparous pregnant women in their second trimester reduces fear of childbirth and anxiety, also increases prenatal attachment. This method is easy to apply and effective, so it is recommended to be applied to pregnant women by health care professionals.

Keywords

Anxiety, Fear of childbirth, Prenatal attachment, Primiparous pregnancy, Psychoeducation

Introduction

Pregnancy may cause fear of childbirth as it is perceived as a traumatic and stressful period that causes changes in the mental, social and physical life conditions of women [1]. Birth is experienced as one of the important desired events in women's lives and is a potentially painful process that can threaten the life of the expectant mother [2,3]. In studies comparing multiparous and primiparous women, it is reported that uncertainty, labor pain and fear of childbirth due to not being able to control this situation are more common and more severe [4-6]. In addition, education level, low self-perception, insufficient social support, weak relationship with spouse, not being ready for pregnancy and personality traits are among the factors that cause fear of childbirth [6,7].

Fear of childbirth during pregnancy is considered normal upto a certain level. It is important when it is experienced in a discomfortingly and affects daily life

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[8]. When the literature is examined, it is stated that one out of every five women experience fear of childbirth and 6-36% experience severe fear [9,10]. Therefore, it is common to experience antenatal mental disorders such as anxiety and depression during pregnancy [3,11].

Studies show that fear of childbirth and anxiety are related to three reasons. The first is that the pregnant woman perceiving her own situation as annoying and disturbing, the second is that watching someone else giving birth, and the third is that listening to false and negative horror stories about childbirth [5,12]. Fear of doing herself or newborn an injury, fear of death, traumatic birth experience, personality traits, negative and anxiety feelings to wards motherhood are counted among the biological factors for fear of childbirth and anxiety [13]. In a systematic review of 21 studies, it is shown that fear of childbirth is associated with anxiety and depressive symptoms [14].

Experienced fear of childbirth and mental problems may negatively affect prenatal attachment or the ability to establish a relationship with the newborn [15]. Prenatal attachment refers to a process that begins with pregnancy and continues and develops afte rbirth [16]. The healthy progress of prenatal attachment is related to the adaptation of the pregnant to motherhood and the development of emotional bond with the baby. In this context, the mother should have communication with her unborn baby, about plans for the future, fantasies and activities [15,17]. Mental or physical health problems such as fear of childbirth and anxiety are related to it may cause deterioration of prenatal attachment. For this reason, psychological interventions in the antenatal period are gaining more and more importance due to the prevalence of women's mental health problems and their negative effects on the child [16,18]. These interventions include cognitive behavioral therapy, mindfulness therapy, problem-solving therapy, psychoeducation, psychotherapy or inter personal therapy [19].

It is seen that psychoeducation applied in terms of early detection of pregnancy-related mental problems and contributing to problem-solving skills provides positive perinatal outcomes in pregnant women [20]. Psychoeducational intervention is a prenatal intervention method to support pregnant women to care for themselves or their babies. It increases compliance with pregnancy, to develop a positive perception of birth, and enhances knowledge and skills [20,21].

The aim of this study is to determine the effect of psychoeducation applied in primiparous pregnant women on fear of birth, prenatal attachment and anxiety.

Materials and Methods

Type of research

This study is conducted with a pre-test post-test education intervention pattern in order to determine the effect of the psychoeducation program applied to primiparas at 20-34 weeks of gestation on fear of birth, prenatal attachment and anxiety.

Participants

The sample of the study consists of 12 primiparous pregnant women between 20th and 34th gestational weeks who admitted routine follow-ups in a gynecology and obstetrics clinic in Turkey between 02-2023 and 04-2023. The criteria for inclusion in the study were determined as non-risky pregnancy, being 18 years or older, having a single and live pregnancy, volunteering to participate in the study, and being between the 20th and 34th weeks of pregnancy.

Psychoeducational intervention

The pregnant women who came to have their routine follow-ups were informed about the purpose of the study. An informed consent form was signed face-to-face in the interview room with the pregnant women who met there search criteria and agreed to participate in thestudy. The psychoeducation program was designed to increase prenatal attachment by reducing fear of birth, negative mood and anxiety symptoms within the scope of adaptation to pregnancy and preparation for childbirth in primiparous pregnant women [2,22].

The structure of the intervention was developed on the basis of psychological adaptation to pregnancy, labor symptoms and processes of labor, coping with contractions, and practices to increase prenatal attachment. The content of the training program is shown in Table 1.

Data Collection Tools

The data of this study were collected using the "Sociodemographic Data Collection Form", "Prenatal Attachment Inventory", "Beck Anxiety Scale" and "Wijma Birth Expectation/Experience Questions (W-DEQ) Version A" scales.

Sociodemographic data collection form

Based on previous studies, the researchers prepared a form questioning th eobstetric characteristics and sociodemographic data such as age, educational status, marital status and marriage age of participants [23,24].

Prenatal attachment inventory (PAI)

The prenatal attachment inventory (PAI) was developed by Mary Muller in 1993 to measure the attachment level in the prenatal period by describing the feelings, thoughts and situations of women during pregnancy. The Turkish validity and reliability study of the scale was conducted by Dereli Yılmaz and Kızılkaya Beji in 2010. PAI is applied to pregnant women between 20 and 40 weeks. There are 21 items in the scale. Each item is scored between 1 and 4 (1: Never, 2: Sometimes,

Table 1: Content of the psychoeducational intervention.

Sessions	Session content
1. Session	Collection of pre-test data Description of the psychoeducational intervention content
2. Session	Explaining the importance of antenatal education Explaining the comments of pregnant women about the process they go through
3. Session	Anatomy and physiology of reproductive system Explaining the delivery stages Raising women's awareness regarding prenatal emotional changes
4. Session	Understanding the sources of prenatal stress and fear of childbirth Identifying different ways to deal with prenatal stress and fear of childbirth Determining the relationship between thought, emotion and behavior
5. Session	Explaining the physical changes, process of labor, and pain relief methods Labour support, non-pharmacological and pharmacological pain-relief methods Symptoms of labour, contractions, breathing and relaxation
6. Session	Teaching motherhood skills Gaining skills to increase prenatal attachment Explaining the role of women's feelings and thoughts towards the newborn
7. Session	The importance of communication with family and friends Raising women's self-esteem and ability to cope with childcare, defining the problem, goal setting and choosing solutions Gaining problem solving skills to pregnant women Breast feeding, new born care
8. Session	Collection of post-test data Getting feedback from pregnant women

3: Often, 4: Always). Scale scoring ranges from 21 to 84. A high score for the pregnant indicates that the level of attachment to her baby is high. The Turkish Cronbach Alpha reliability coefficient of the scale was stated as 0.84 [25].

Beck anxiety scale (BAS)

The Beck anxiety scale was developed by Beck, et al. in 1988 to measure anxiety symptoms and reveal the cognitive aspects of anxiety. The Turkish validity and reliability study of the scale was performed by Ulusoy, et al. The scale consists of 21 items and is a four-point Likert type scale with a score between 0 and 3. Scale scoring ranges from 0 to 63. The Cronbach alpha value of the scale was found to be 0.93 [26].

Wijma birth expectation/experience questions (W-DEQ) version A

The scale, developed by Wijma, et al. in 1998 to determine the level of fear of childbirth in pregnant women, was validated in Turkish by Körükçü, et al. (2012). W-DEQ version A consists of 33 items. Responses from 0 to 5 in the scale are numbered six-point Likert type. The scale is scored between 0-165. A high score indicates a high level of fear of childbirth. The Cronbach Alpha value of the scale for Turkey was found to be 0.88 for primiparous pregnants and 0.90 for multiparous pregnants [27].

Analysis of Data

SPSS 20.0 package program was used to evaluate

Table 2: Distribution of pregnant women according to their sociodemographic characteristics (n = 12).

Sociodemographic Characteristics	n	%
Age		
18-24	7	58.3
25-34	4	33.3
35 and above	1	8.3
Education level		
Primary education	2	58.3
High school	7	33.3
University	3	8.3
Job of women		
Employee	3	25.0
Unemployee	9	75.0
Income level		
Income less than expenses	2	16.7
Income equal to expenses	9	75.0
Income more than expenses	1	8.3
Family type		
Extended family	4	33.3
Nuclear family	8	66.7
Age at marriage		
18-24	9	75.0
25-34	3	25.0
Region of residence		
Village-Town	2	16.7
Rural areas	5	41.7
Urban	5	41.7

the research data. The statistical significance of the data was evaluated at the $p < 0.05$ level. The normal distribution of the data was checked by Kolmogorov-Smirnov test and homogeneity was checked by Levene's test. Descriptive statistics (percentage, frequency) were used in the evaluation of demographic data, and paired sample t-test was used in the analysis of data before and after psychoeducation.

Ethical Aspect of Research

The permission of Tokat Gaziosmanpaşa University Clinical Research Ethics Committee was obtained for their search. Oral and written consent was obtained from all pregnant women participating in the study.

Results

In the demographic characteristics analysis, it was determined that 58.3% of the participants were between the ages of 26-43, 58.3% were high schoolgraduates, 75% were unemployed, 66.7% had a nuclearfamily, and 41.7% lived in the province. It was found that 75% of them were between 18 and 24 years of age at marriage (Table 2).

It was found that 83.3% of the participants had planned pregnancy, 58.3% had the desired baby gender, 58.3% did not have regular follow-up, and 75% did not have any problems in their marriage due to pregnancy. 58.3% stated that they had pregnancy-related problems in their daily life (Table 3). The mean week of gestation was 27.25 ± 2.13 (min: 24 weeks; max: 31 weeks).

Table 4 presents the W-DEQ A Versions core averages of the pregnant women before and after the psychoeducation program. While the mean W-DEQ A Version score of the pregnant womenwas 69.00 ± 10.29 before the psychoeducation program, it was found to be 46.33 ± 7.05 after the psychoeducation program. The difference between the mean scores before and after psychoeducation was found to be statistically significant ($p < 0.001$). While the average PAI score of the pregnant women was 49.00 ± 7.82 before the psychoeducation program, it was found that the average score increased after the psychoeducation program and was 65.00 ± 5.92. The difference between the mean scores before and after psychoeducation was found to be statistically significant ($p < 0.001$). In the examination of BAS score averages, it was determined that the score before the psychoeducation program was 34.08 ± 3.34 and after the psychoeducation program the average score decreased to 18.58 ± 4.33. The mean BAS score of pregnant women before and after psychoeducation was found to be statistically significant ($p < 0.001$) (Table 4).

Discussion

Fear of childbirth is a common problem among all pregnant women. However, it is reported that this fear is experienced more in primiparous women due to the obscurity about childbirth, contractions experienced during childbirth, and the inability to control this situation [6]. Psychological problems such as fear of childbirth and related anxiety cause deterioration of prenatal attachment [18].

Table 3: Distribution of pregnant women according to their obstetric characteristics (n = 12).

Obstetrics Characteristics	n	%
Is it the desired gender?		
Yes	7	58.3
No	5	41.7
Baby's gender		
Girl	8	66.7
Boy	4	33.3
Desired pregnancy		
Desired	10	83.3
Undesired	2	16.7
Routine care		
Yes	5	41.7
No	7	58.3
Do you have a problem with your wife		
Yes	3	25.0
No	9	75.0
Pregnancy related problem		
Yes	7	58.3
No	5	41.7
Do you have any information about the birth?		
Yes	2	16.7
No	10	83.3
Support resource		
Spouse	9	75
Mother	3	25

Table 4: W-DEQ A, PAI, and BAS score averages before and after psychoeducation.

Scale	Pre-psychoeducation X ± SS	Post-psychoeducation X ± SS	p	t	Psychoeducation pre and post difference X ± SS
W- DEQ A	69.00 ± 10.29	46.33 ± 7.05	**< 0.001**	12.85	22.66 ± 6.11
PAI	49.00 ± 7.82	65.00 ± 5.92	**< 0.001**	-16.37	-16.00 ± 3.38
BAS	34.08 ± 3.34	18.58 ± 4.33	**< 0.001**	17.89	15.50 ± 3.00

In our study, those who scored medium and high in WDEQ version A scale in the pre-test data of 12 primiparous pregnant women were selected. We found that psychoeducational interventions are important to reduce the fear of childbirth in pregnant women who have fear of childbirth. The results of this study show that a psychoeducational intervention given by a nurse to pregnant women between 24 and 31 weeks of gestation is significantly effective in reducing women's fear and anxiety of childbirth and increasing prenatal attachment. The differences in the findings of the study may be caused by factors such as the definition of fear of childbirth and anxiety, the difference in demographic and obstetric characteristics, and the quality of health care received.

The findings of the study show that the psychoeducational intervention effectively reduces the fear of childbirth and anxiety symptoms. The research is similar to other studies in which the psychoeducation program was applied and that the fear of childbirth decreased. Toohil, et al. reported that the fear of childbirth decreased in pregnant women who received five sessions of psychoeducation [28]. In another study, it is shown that a 3-session psychoeducation program was effective on fear of childbirth [2]. Saisto, et al. reported that the rate of natural vaginal delivery was higher than the control group as a result of five sessions of therapeutic group psychoeducation and relaxation program applied to primiparous women with fear of childbirth [29]. Scherer, et al. showed a significant decrease in anxiety levels with six sessions of psychoeducation applied to both multiparous and primiparous pregnant women [30].

Moreover, the results are consistent with studies showing that psychological interventions other than psychoeducation are also effective in reducing the fear of childbirth among pregnant women who experience fear of childbirth. It has been reported that both the fear of childbirth and the level of anxiety decreased in pregnant women with the five-session psychotherapy program implemented by Abdollahi, et al. [31]. In another study, it was reported that 2-hour birth training by midwives significantly reduced the fear of childbirth [10]. In addition, an 18-hour mindfulness-based motherhood preparation program has been shown to improve self-efficacy as well as fear and labor pains in pregnant women [32]. In a study conducted in the Netherlands, it was observed that there was a decrease in anxiety levels with two sessions of mindfulnes straining on 75 pregnant women [33]. Khojasteh, et al. reported that the fear of childbirth decreased in pregnant women who received four sessions of cognitive behavioral therapy [34]. Although all counseling and training programs reduce fear of childbirth and anxiety, there are differences between this study and previous studies in terms of the number of sessions, number of participants, cultural differences and methodology. It is thought that the psychoeducation program is effective in reducing the fear of birth and anxiety symptoms thanks to the normal processes of birth, the ability to cope with the physiological and emotional difficulties and the increase in knowledge. According to the literature, relaxation and daydreaming affect pregnancy and childbirth by both affecting the autonomic nervous system and providing comfort [35]. It was observed that the inclusion of relaxation exercises, daydreaming and emotional expressions in the psychoeducation program applied in our study increased the adaptation of pregnant women to pregnancy and childbirth and was effective in reducing the fear of childbirth.

Interventions to improve prenatal attachment are effective with theoretical and practical trainings. Emphasizing behaviors such as the pregnant touching her belly, learning about the physiological changes in pregnancy, and imagining the position of the fetus in the mother's womb [36]. The common points of these interventions are seen as touching the baby and counting the fetal movements.

In this study, it was shown that fetal movement count and daydreaming towards the baby applied in the psychoeducation program increased the level of prenatal attachment. The results of this study are consistent with previous studies. Abbasi, et al. evaluated the effect of fetal movement count on prenatal attachment level in 83 primiparous women and showed that attachment level increased significantly in the intervention group compared to the control group [37]. Akbar-Zadeh, et al., in their study on attachment behaviors, found that mothers' anxiety decreased and mother's attachment increased significantly in the 32nd and 35th weeks of pregnancy [38]. In addition, we think that fear of childbirth, anxiety level and psychological factors in pregnant women may affect prenatal attachment and cause differences in outcomes.

Counting fetal movement and being careful about it may affect prenatal attachment as well as increase the knowledge of them other about her baby and help her realize the presence of her baby [36]. Serçekuş, et al. also showed that prenatal adjustment training is effective in increasing prenatal and postnatal adjustment [39]. It has been stated that there is an increase in compliance with pregnancy and prenatal attachment with the educational intervention under midwife counseling by Arasteh, et al. [40].

Study Limitation

A small sample size of 12 pregnant women does not include all pregnant women in Turkey who have fear of childbirth. Since there search was conducted in a single center in Turkey, the findings cannot be generalized to the whole population.

Conclusion

This study shows that psychoeducation applied to primiparous pregnant women in their second trimester reduces fear of childbirth and anxiety and increases prenatal attachment. As a result of the applied psychoeducation program, the physiological and psychological changes that occur during pregnancy and the increase in the knowledge level of pregnant women about labor and newborn care provide a more positive perception of birth. Thus, it reduces the level of fear of birth and anxiety. Expression of feelings to wards the baby, counting fetal movements, touching the tummy, and conversations with the baby have increased the level of prenatal attachment as the pregnant woman thinks of her baby as an individual and becomes aware of it. We recommend that this method be applied to primiparal pregnancy by professionals who provide health care services, since it is an easy and effective model to use.

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Conflict of Interest Statement

On behalf of all authors, the corresponding author states that there is no conflict of interest.

Data Availability Statement

The data sets generated during and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Ethics Statement

Tokat Gaziosmanpaşa University Social and Human Sciences Research Ethics Committee permission was obtained for the research. Oral and written consent was obtained from all pregnant women participating in the study.

References

1. Toohill J, Fenwick J, Gamble J, Creedy DK (2014) Prevalence of childbirth fear in an Australian sample of pregnant women. BMC Pregnancy Childbirth 14: 275.
2. Kordi M, Bakhshi M, Masoudi S, Esmaily H (2017) Effect of a childbirth psychoeducation program on the level of fear of childbirth in primigravid women. Evidence Based Care 7: 26-34.
3. Tata N, Esmaeilpour K, Najafzadeh N, Nader Mohammadi M, Mirghafourvand M (2022) The effect of beck's cognitive therapy on anxiety and fear of childbirth: A randomized controlled trial. Journal of Midwifery and Reproductive Healt 10: 3198-3209.
4. O'Connell MA, Leahy-Warren P, Kenny LC, O'Neill SM, Khashan AS (2019) The prevalence and risk factors of fear of childbirth among pregnant women: A cross-sectional study in Ireland. Acta Obstet Gynecol Scand 98: 1014-1023.
5. Fenwick J, Toohill J, Creedy DK, Smith J, Gamble J (2015) Sources, responses and moderators of childbirth fear in Australian women: A qualitative investigation. Midwifery 31: 239-246.
6. Qiu L, Sun N, Shi X, Zhao Y, Feng L, et al. (2020) Fear of childbirth in nulliparous women: A cross-sectional multicentre study in China. Women Birth 33: 136-141.
7. Shakarami A, Mirghafourvand M, Abdolalipour S, Jafarabadi MA, Iravani M (2021) Comparison of fear, anxietyand self-efficacy of childbirth among primiparous and multiparous women. BMC Pregnancy Childbirth 21: 642.
8. Klabbers GA, Wijma K, Paarlberg KM, Emons WHM, Vingerhoets AJJM (2019) Haptotherapy as a new intervention for treating fear of childbirth: A randomized controlled trial. J Psychosom Obstet Gynecol 40: 38-47.
9. Aguilera Martín Á, Gálvez Lara M, Blanco Ruiz M, García Torres F (2020) Psychological, educational, and alternative ınterventions for reducing fear of childbirth in pregnant women: A systematic review. J Clin Psychol 77: 525-555.
10. Haapio S, Kaunonen M, Arffman M, Åstedt-Kurki P (2017) Effects of extended childbirth education by midwives on the childbirth fear of first-time mothers: A RCT. Scand J Caring Sci 31: 293-301.
11. Bödecs T, Horváth B, Szilágyi E, Gonda X, Rihmer Z, et al. (2011) Effects of depression, anxiety, self-esteem, and health behaviour on neonatal outcomes in a population-based Hungarian sample. Eur J Obstet Gynecol Reprod Biol 154: 45-50.
12. Rondung E, Thomtén J, Sundin Ö (2016) Psychological perspectives on fear of childbirth. J Anxiety Disord 44: 80-91.
13. Gargari MA, Esmailpour K, Mirghafourvand M, Nourizadeh R, Mehrabi E (2021) Effects of psycho-education ınterventions on perceived childbirth fear and anxiety by pregnant women: A systematic review and meta-analysis. Int J Womens Health Reprod Sci 9: 230-237.
14. Dencker A, Nilsson C, Begley C, Jangsten E, Mollberg M, et al. (2019) Causes and outcomes in studies of fear of childbirth: A systematic review. Women Birth 32: 99-111.
15. Hildingsson I, Rubertsson C (2022) Postpartum bonding and association with depressive symptoms and prenatal attachment in women with fear of birth. BMC Pregnancy Childbirth 22: 66.
16. Tichelman E, Westerneng M, Witteveen AB, vanBaar AL, van der Horst HE, et al. (2019) Correlates of prenatal and postnatal mother-to-infant bonding quality: A systematic review. PLoS One 14: e0222998.
17. Malm MC, Hildingsson I, Rubertsson C, Rådestad I, Lindgren H (2016) Prenatal attachment and its association with foetal movement during pregnancy – A population based survey. Women Birth 29: 482-486.
18. Pietikänen J, Kiviruusu O, Kylliäinen A, Pölkki P, Saarenpää-Heikkilä O, et al. (2020) Maternal and paternal depressive symptoms and children's emotional problems at the age of 2 and 5 years: A longitudinal study. J Child Psychol Psychiatry 61: 195-204.
19. Neo HS, Tan JH, Ang WHD, Lau Y (2022) Internet-delivered psychological interventions for reducing depressive, anxiety symptoms and fear of childbirth in pregnant women: A meta-analysis and meta-regression. J Psychosom Res 157: 110790.
20. Ong QEO, Ong JW, Ang MQ, Julkunen KV, He HG (2023)

Systematic review and meta-analysis of psycho education on the psychological and social impact among first-time mothers. Patient Educ and Couns 111: 107678.

21. Park S, Kim J, Oh J, Ahn S (2020) Effects of psycho education on the mental health and relationships of pregnant couples: A systemic review and meta-analysis. Int J Nurs Stud 104: 103439.
22. Lewis-Jones B, Nielsen TC, Svensson J, Nassar N, Henry A, et al. (2023) Cross-sectional survey of antenatal education attendance among nulliparous pregnant women in Sydney, Australia. Women and Birth: Journal of the Australian College of Midwives 36: e276-e282.
23. Uğurlu M, Çoban Z (2022) Prenatal attachment in the pregnancy: Its relationship with fear of child birth. Perinat J 30: 43-50.
24. Ozbek H, Ertekin Pınar Ş (2022) The effect of haptonomy applied to pregnant women on perceived stress, fear of child birth, and prenatal attachment: Randomized controlled experimental study. Curr Psychol 16: 1-10.
25. Dereli Yılmaz S, Kızılkaya Beji NK (2013) Turkish version of prenatal attachment ınventory: A study of reliability and validity. Journal of Nursology 16: 103-109.
26. Ulusoy M, Şahin NH, Erkmen H (1996) Turkish version of the beck anxiety inventory: Psychometric properties. J Cognit Psychother 12: 163-172.
27. Körükçü O, Kukulu K, Fırat MZ (2012) The reliability and validity of the turkish version of the wijma delivery expectancy/experience questionnaire (W-DEQ) with pregnant women. J Psychiatr Ment Health Nurs 19: 193-202.
28. Toohill J, Callander E, Gamble J, Creedy D, Fenwick J (2017) A cost effectiveness analysis of midwife psycho education for fearful pregnant women – a health system perspective for the antenatal period. BMC Pregnancy Childbirth 17: 217.
29. Saisto T, Toivanen R, Salmela-Aro K, Halmesmäki E (2006) Therapeutic group psychoeducation and relaxation in treating fear of child birth. Acta Obstet Gynecol Scand 85: 1315-1319.
30. Scherer S, Alder J, Gaab J, Berger T, Ihde K, et al. (2016) Patient satisfaction and psychological well-being after ınternet-based cognitive behavioral stress management (ıb-cbsm) for women with preterm labor: A randomized controlled trial. J Psychosom Res 80: 37-43.
31. Abdollahi S, Faramarzi M, Delavar MA, Bakouei F, Chehrazi M, et al. (2020) Effect of psychotherapy on reduction of fear of child birth and pregnancy stress: A randomized controlled trial. Front Psychol 11: 787.
32. Duncan JG, Cohn MA, Chao MT, Cook JG, Riccobono J, et al. (2017) Benefits of preparing for child birth with mindfulness training: A randomized controlled trial with active comparison. BMC Pregnancy Childbirth 17: 2-11.
33. Van der Meulen RT, Veringa-Skiba IK, Van Steensel FJA, Bögels SM, De Bruin EI (2013) Mindfulness-based child birth and parenting for pregnant women with high fear of child birth and their partners: Outcomes of a randomized controlled trial assessing short- and longer-term effects on psychological well-being, birth and pregnancy experience. Midwifery 116: 103545.
34. Khojasteh F, Afrashte M, Khayat S, Navidian A (2022) Effect of cognitive–behavioral training on fear of child birth and sleep quality of pregnant adolescent slum dwellers. J Edu Health Promot 11: 311.
35. Lau Y, Cheng JY, Wong SH, Yen KY, Cheng LJ (2021) Effectiveness of digital psychotherapeutic ıntervention among perinatal women: Asystematic review and meta-analysis of randomized controlled trials. World J Psychiatry 11: 133-152.
36. Salehi K, Salehi Z, Shaali M (2017) The effect of education of fetal movement counting on maternal fetal attachment in pregnant woman: A randomized controlled clinical trial. Int J Pediart 5: 4699-4706.
37. Abasi A, Tafazoli M, Esmaeili H (2010) The effect of fetal movement counting on primipara maternal foetal attachment. J Mazandaran Univ Med Sci 20: 53-60.
38. Akbarzadeh M, Toosi M, Zare N, Sharif F (2011) Effect of learning attachment behaviors on anxiety and maternal fetal attachment in first pregnant women. EBCJ 1: 21-34.
39. Serçekuş P, Mete S (2010) Effects of antenatal education on maternal prenatal and postpartum adaptation. J Adv Nurs 66: 999-1010.
40. Arasteh A, Kharaghani R, Zenoozian S, Moloodi R, Jafari E (2020) Effectiveness of midwifery counseling on adaptation to pregnancy, maternal-fetal attachment, and quality of life in unplanned pregnant women: A randomized controlled trial in Iran. Int J Pediatr 8: 11435-11448.