

The Effect of Childbirth Education Given by the Nurse on the Level of Anxiety Father's: A Randomize Control Trial

Doğum Sürecinde Hemşire Tarafından Verilen Eğitimin Babaların Anksiyete Düzeyine Etkisi:
Randomize Kontrollü Çalışma

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ABSTRACT

Objective: This study aims to identify the effect of the training given to fathers - who did not attend any prenatal preparatory classes throughout their partner's pregnancy period- after admission to the hospital for birth on their anxiety level.

Material and Methods: The study was designed and conducted as a cross-sectional, randomized controlled experimental one. The study included 105 fathers, 56 fathers in the experimental group and 49 fathers in the control group. The data were collected socio-demographic information form; interview form in relation to birth; Spielberger State / Trait Anxiety Inventory (STAI).

Results: Comparison of the fathers in the experimental (39.32±8.94) and control group (43.69±8.35) in terms of the trait anxiety scores showed that trait anxiety scores of the fathers in the experimental group were significantly lower than those of the control group. As to the comparison of the state anxiety mean scores of the fathers in the experimental and control group, while no statistically significant differences were detected between the groups before the training, state anxiety scores of the fathers in the experimental group (35.21±8.42) were found to be significantly lower than those of the control group fathers (42.85±11.03) who were not provided with any training.

Conclusion: In comparison to the fathers who did not receive any information, the state anxiety levels were found to be lower in the fathers who were systematically informed about the hospital, birth process, newborn and postnatal period while waiting for the birth outside the delivery room.

Keywords: fatherhood, state anxiety, trait anxiety, pregnancy, childbirth

ÖZET

Amaç: Bu çalışma, eşinin doğumunu doğum salonu dışında bekleyen babalara verilen planlı eğitimin babaların kaygı düzeyine etkisini belirlemek amacıyla yapıldı.

Gereç ve Yöntemler: Çalışma kesitsel, randomize kontrollü deneysel olarak tasarlandı ve yürütüldü. Çalışmaya deney grubuna 56 kontrol grubuna 49 olmak üzere toplam 105 baba adayları dahil edildi. Çalışmanın verileri; tanıtıcı bilgi formu, Spielberger'in Durumluk / Sürekli Kaygı Envanteri kullanılarak toplandı.

Bulgular: Deney (39.32±8.94) ve kontrol (43.69±8.35) grubundaki babaların sürekli kaygı puanları karşılaştırıldığında, deney grubundaki babaların sürekli kaygı puanlarının kontrol grubuna göre daha düşük olduğu gözlemlendi. Deney ve kontrol grubunda durumluk kaygı puan ortalamaları karşılaştırıldığında eğitim öncesi gruplar arasında istatistiksel anlamlı bir fark bulunmazken, eğitim verilen deney grubundaki (35.21±8.42) babaların durumluk kaygı puanları, eğitim almayan kontrol grubundaki (42.85±11.03) babalara göre anlamlı derecede düşük olduğu bulundu.

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Sonuç: Doğumhane dışında doğum için bekleyen ve doğum süreci, yenidoğan bakımı, doğum sonrası dönem hakkında sistematik olarak eğitim verilen babaların eğitim verilmeyen babalara göre kaygı düzeylerinin daha düşük olduğu saptandı.

Anahtar Kelimeler: babalık, durumluk kaygı, sürekli kaygı, gebelik, doğum

INTRODUCTION

Fatherhood, which is accepted as an important turning point for men, could differ across cultures; it could even be subject to change and development within the same culture over time (1-3). This diversity results from cultural structure, social and economic reasons, family relations, social gender perceptions, and expectations about parenting (2).

Pregnancy and transition to parenting are an important milestone for both men and women. Traditionally, birth and childcare are seen as women's duty and area of interest (4). Therefore, there are no, if any, studies on the feelings, motivation, and expectations of fathers in the pregnancy and birth period and the meaning of birth for fathers (5-7). However, with the natural birth movement in 1960s, the necessity for men to be involved in pregnancy process was emphasized, and there has been more interest in the issue (6, 8).

Studies conducted recently have shown that men go through physiological and psychological, if not biological, changes within the pregnancy period (1). For instance, during pregnancy and childbirth, fathers-just like mothers- experience conflicting and complex feelings such as feeling having no support, heaviness, fear, and anxiety (9, 10).

The related literature indicates the fear of birth prevalence in men as 13% (11). Especially in unexpected cases in the birth process, fathers' emotional levels are affected negatively, which could also affect the postpartum process (9, 11). Hence, high anxiety and stress experienced by fathers prevent them from having emotional interactions with their babies and so put off the connecting process (11).

There are various reasons of negative emotions experienced by fathers in the pregnancy and birth period. Frequently, fathers are deeply affected by some factors such as anxiety about the health and safety of the wife and unborn baby, mother's having pain and suffering, lack of information about birth process and protocols, and possibility of interventional birth (4, 7). In addition to all these, they have worries about not having enough financial resources and thus not knowing how the baby will affect

the budget, the feeling of not being ready for the paternal role, and the anxiety and fear in relation to the effects of this period on social life and work life. Some other reasons of negative feelings include worries about the effects on marital relationship and the feeling of being excluded (3, 4, 7).

For this reason, in the prenatal period and delivery process, health professionals should provide support not only to the mother but also to the mother and father together as a couple. Perinatal assessments and initiatives to meet the needs of this new family should involve the assessment of not only mothers' but also fathers' concerns and expectations (12). Fathers' roles at birth should be discussed in the direction of their expectations, and through prenatal visits, fathers should be encouraged to attend birth (5, 13, 14).

It is important for fathers to get involved in the pregnancy and birth process and to participate in birth and parent preparation classes so that the relationship among the mother, newborn and father can start in the early period (15). The increase in fathers' participation in birth and child care especially in western societies has revealed men's need for training about birth and parental preparation, which resulted in increased demands for birth and parenting classes (5).

As for Turkey, the number of birth preparation classes and the demand for services are increasing day by day. However, in state hospitals where the vast majority of births take place, demand for trainings is quite low among fathers who have low or middle socio-economic levels. In the majority of the state hospitals in our country, fathers are not allowed to enter the delivery rooms. Fathers, who usually cannot accompany their spouses even in routine checks during pregnancy, face the parenting

and birth process at the delivery room door (1). For this reason, the level of anxiety during birth increases even more for men who will become father for the first time (16). However, it should be noted that the holistic health approach requires supporting fathers, who are out of the delivery room, as much as mothers. This study aims to identify the effect of the training given to fathers - who did not attend any prenatal preparatory classes throughout their partner's pregnancy period- after admission to the hospital for birth on their anxiety level.

MATERIAL AND METHOD

Setting: This study was conducted in the Gynecology and Obstetrics Clinic of a Ministry of Health state hospital between 12th February and 12th August, 2013.

Ethical approval: Ethical Committee approval was obtained from the Bağcılar Training and Education hospital where the study was conducted (IRB No: 2013/99). Written consents were obtained from the hospital where the study would be conducted and participating fathers. The study was conducted in accordance with the principles of the Declaration of Helsinki.

Sample of the Study: Sample of the study was husbands of women who applied to the hospital between the abovementioned dates for predicted vaginal birth, who did not have risky pregnancy, who spoke Turkish, who did not have any communication problems, who had 4-5 cm cervical dilatation, and who volunteered to participate in the study. Thus, the study included 105 fathers, 56 fathers in the experimental group and 49 fathers in the control group (Figure-1).

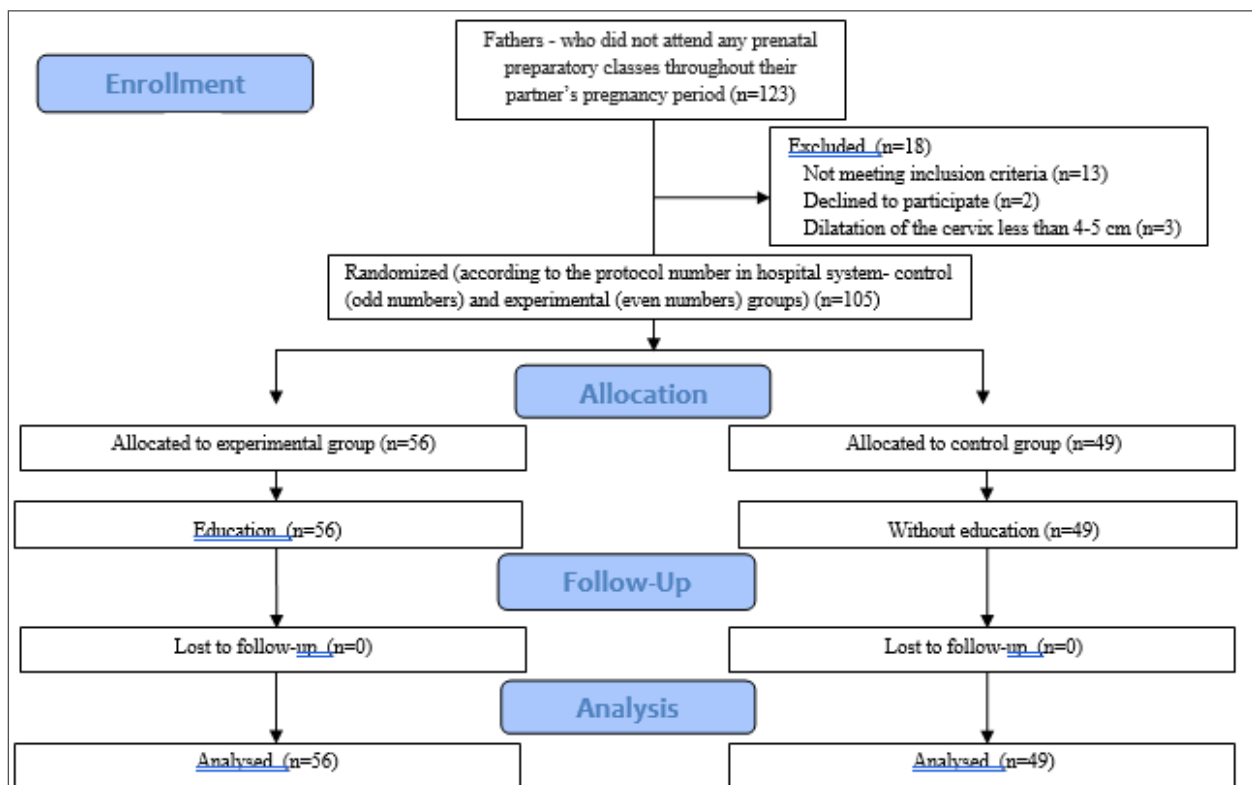


Figure 1: Flow diagram of the study participants.

Study Design: The study was designed and conducted as a cross-sectional, randomized controlled experimental one.

Data Collection Process

Data Collection Tools: Socio-demographic Information Form: The form, which was prepared by the researchers in line with the related literature, included questions that aimed to collect data about fathers' descriptive features such as age, education level, working status, number of children, etc.

Interview Form in relation to Birth: In this open-ended questionnaire, the fathers were asked whether they wanted to participate in birth, the reasons for why (or why not) they wanted to participate in birth, and the amount of time they wanted to be present at birth for those who wanted to participate in birth.

Spielberger State / Trait Anxiety Inventory (STAI); The Inventory, which was developed by Spielberger, Gorsuch and Lushene in 1970, consists of 2 subscales with 20 expressions in each that measure state and trait anxiety. The State Anxiety Subscale (STAI-S) measures the individual's anxiety at a specific time and under certain conditions. The Trait Anxiety Subscale (STAI-T), on the other hand, usually requires the description of feelings. The inventory is answered on a 4-point scale. The emotions and behaviors expressed in the State Anxiety Subscale items are indicated by choosing one of the options including (1) Not at all, (2) Somewhat, (3) Moderately so, and (4) Very much so", according to the severity of such experiences. The emotions and behaviors expressed in the Trait Anxiety Subscale items are indicated by choosing one of the options including (1) Almost never, (2) Sometimes, (3) Often and (4) Almost always, according to the frequency of such experiences. High scores obtained from each subscale indicate a high level of anxiety. Test-retest and Kuder-Richardson reliability ratios of the original inventory were .16 - .54 and .83 - .92 respectively for the State Anxiety Subscale. These ratios were found .73 - .86 and .86 - .92 respectively for the Trait Anxiety Subscale (17).

The Turkish adaptation, validity and reliability of STAI was performed by Oner and Le Compte in 1983. In this study, Kuder-Richardson reliability of the inventory was found .83 - .87 respectively for the Trait Anxiety Subscale; and between .94 and .96 respectively for the State Anxiety Subscale. Item reliability correlations were between .34 and .72 for the Trait Anxiety Subscale and between .42 and .85 for the State Anxiety Subscale, which indicates that the Turkish-translated form is reliable. Test-retest reliability ratios of the inventory were between .71 and .86 for the Trait Anxiety Subscale; and between .26 and .68 for the State Anxiety Subscale, which was considered adequate.

Phases of the Study: The pregnant women who apply for birth to the hospital are admitted to the delivery room after the first examinations are made in the Emergency Unit of the Maternity Hospital

where the study was conducted. According to the hospital procedures, unless there is an emergency, mothers are admitted to the delivery room after the cervix is dilated to at least 4 cm. Due to the excess birth rate and inadequate physical conditions of the hospital, the father and other relatives of the pregnant women are not admitted to the delivery room during birth. Before the pregnant woman is admitted to the delivery room, neither the pregnant woman nor her relatives are provided with any routine informing procedures about the birth process. The training given to the fathers in this study was provided by the researchers.

Education Guide Used in the Study: The education guide used in the study was developed by the researchers in line with the literature. Illustrations were used to make the guide more understandable. Since the father is not allowed to enter the delivery room, the guide included photographs of the delivery room, the spouse's room after delivery, the cesarean section operating room, and the newborn room. The education guide included information about the procedures such as the birth mechanism and phases, medical support and care to be given to the mother and newborn in the delivery room, maternal and infant safety, maternal and infant needs after delivery, and procedures related to the delivery room.

Analysis of the Data: The data obtained from the study were analyzed on computer using SPSS (Version 21.0) package program. Mann Whitney-U Test and chi-square tests were used for the comparison of the experimental group (those who were given training) and control group (those who were not given training) in terms of the socio-demographic features such as age, education level, working status, income level, planning pregnancy, wanting to participate in birth or in the training. Chi-square test was used for the comparison of willingness of both groups for participating in birth and reasons for why they do not want to be present at birth. The comparison of state and trait anxiety scale scores and the comparison of state and trait anxiety scale scores in relation to birth were performed using Student's test.

RESULTS

Average age of the experimental group was $30,51 \pm 6,12$ (min;18-max;45) and average age of the control group was $30,16 \pm 4,47$ (min;23-max;43). There were no statistically significant differences between the experimental group and the control group in terms of age, duration of education, working status, income level, planning pregnancy or not, having children alive, father's knowledge about birth, father's willingness for participating in birth, and the duration for the father's participating in birth. None of the fathers had received any training about birth before.

A comparison of fathers in the experimental and control group in terms of being willing to participate in birth indicated that there was no statistically significant difference in the factors except for

Table 1: Comparison of Fathers in the Experimental and Control Group in Terms of Wanting to Participate in Birth.

	Experimental Group (n:56)		Control Group (n:49)		χ^2	p
	n	%	n	%		
Father's wanting to participate in birth						
Yes	46	82.1	36	73.5	0.698**	.403
No	10	17.9	13	26.5		
To support my wife during birth (n=82)						
Yes	27	58.7	27	75.0	1.717**	.190
No	19	41.3	9	25.0		
To see that my wife and the baby are well (n=82)						
Yes	20	43.5	8	22.2	3.168**	.075
No	26	56.5	28	77.8		
To witness my baby's birth (n=82)						
Yes	20	43.5	8	22.2	3.168**	.075
No	26	56.5	28	77.8		
Not to leave my wife alone (n=82)						
Yes	22	47.8	7	19.4	5.929**	.015
No	24	17.9	29	80.6		
To make my wife feel stronger with my support (n=82)						
Yes	23	50.0	4	11.1	12.124**	.000
No	23	50.0	32	88.9		
To experience that moment with my wife and to understand what she experiences (n=82)						
Yes	21	45.7	4	11.1	9.798**	.002
No	25	54.3	32	88.9		
To support my wife in birth (n=82)						
Yes	27	58.7	27	75.0	1.717**	.190
No	19	41.3	9	25.0		

** Yates' correction test was performed.

two factors. These two factors included those who wanted their spouse not to be alone and feel their husband's power to feel safe, and those who wanted to understand what their spouse experiences at birth. When compared to the control group, the ratio was higher in the experiment group in terms of those who thought that their spouse should not be alone, she should feel the power of their husband's presence to feel safe and understand what their spouse feels at birth by experiencing birth with her (Table-1; Table-2).

Comparison of the fathers in the experimental and control group in terms of the trait anxiety scores showed that trait anxiety scores of the fathers in the experimental group were significantly lower than those of the control group. As state anxiety scores of the fathers in the experimental group were found to be significantly lower than those of the control group fathers who were not provided with any training (Table-3).

Intra-group comparison of the experimental group fathers who were provided with training indicated that state anxiety levels were significantly higher in comparison to the scores after the training ($p < 0,05$). The control group, which was not provided with any training, was found to demonstrate significant differences between the first and second meetings ($p < 0,05$). State anxiety levels of the fathers in the control group were found to be higher in the second meeting (Table-3). Trait anxiety mean scores of the fathers in the experimental group who

planned pregnancy and had knowledge about birth were significantly lower in comparison to the control group (Table-4).

Table 2: Comparison of Fathers in the Experimental and Control Group according to the Reasons for not wanting to participate in birth.

	Experimental Group (n:56)		Control Group (n:49)		χ^2	p
	n	%	n	%		
I don't want to see my wife in pain						
Yes	9	90.0	8	61.5	*	.179
No	1	10.0	5	38.5		
I don't want to watch because I feel shy/because it is shameful						
Yes	3	30.0	5	38.5	*	.1000
No	7	70.0	8	61.5		
I don't want because I am afraid of seeing blood-syringe						
Yes	1	10.0	-	-	*	.435
No	9	90.0	13	100.0		
My wife doesn't want me to be there						
Yes	1	10.0	-	-	*	.435
No	9	90.0	13	100.0		

* Fisher's exact test was performed.

Table 3: Comparison of the Total Mean Scores of State Anxiety Scale and Trait Anxiety Scale of the Experimental and Control Group.

Scales	Experimental Group, mean±SD		Control Group, mean±SD		Experimental		Control		Experimental/ Control	
	Before training	After training	First meeting	Second meeting	BT/AT ¹		FM/SM ¹		AT ²	
					t	p	t	p	t	p
State Anxiety Scale	41.05±9.08	35.21±8.42	41.02±10.98	42.85±11.03	6.941	.000	-3.514	.001	-4.015	.000
	mean±SD		mean±SD						-2.577	.011
Trait Anxiety Scale	39.32±8.94		43.69±8.35							

¹ Paired student's *t* test; ² Independent student's *t* test; FM = First meeting; SM = second meeting; BO = before training; AO = after training. t: Student's *t*-test.

Table 4: Comparison of the mean scores of the state anxiety scale and the trait anxiety scale of the fathers in the experimental and control groups according to some characteristics.

	Experimental Group	Control Group	t	p
	mean±SD	mean±SD		
State anxiety scores in only those who planned pregnancy	42.36±5.47	44.93±7.63	-1.806	.075
Trait anxiety scores in only those who planned pregnancy	43.40±7.34	46.79±6.72	-2.238	.028
State Anxiety scores of those who want to participate in birth	42.80±5.57	44.25±7.97	-0.965	.337
Trait Anxiety scores of those who want to participate in birth	43.30±7.36	45.16±6.20	-1.216	.227
State Anxiety scores of those who had children before	44.93±5.65	45.17±6.01	Zmw -0.614	.539
Trait Anxiety scores of those who had children before	42.93±5.92	45.00±8.15	-0.705	.481
Trait Anxiety scores of those who were informed about birth	42.61±6.69	44.76±6.99	-1.976	.048

t: Student's *t*-test, **Zmw**: Mann Whitney-U test.

DISCUSSION

The postpartum period is a hard process in which transition to parenting is experienced, and new roles and responsibilities are assumed. Parents have to provide baby care, create a safe environment for the baby, communicate with the baby, learn new roles, adapt to new responsibilities, and cope with the problems about the baby. In this respect, the postpartum period may cause a crisis environment for the family (18). In addition to the new roles and responsibilities, women and their spouses face physical and psychological changes in this period, which could create stress in emotional, behavioral and cognitive domains (19, 20).

Although for the mother and father pregnancy and childbirth are defined as a period in which the physiological, psychological and social stress factors coexist, studies involving fathers during pregnancy and childbirth are still limited (21). As the research on this limitation focuses mainly on postpartum depression, there is little information about anxiety, prevalence of anxiety, and clinical picture in relation to this period. Studies indicate that although preparation for fatherhood for men begins in the pregnancy period, this emotional state is often not as strong as that of women (22). In their study conducted with 260 couples, Figueiredo and Conde (2011) reported that the anxiety level of both mothers and fathers gradually decreased from the onset of gestation to the third postpartum period and that fathers experienced less anxiety in comparison to mothers (23).

However, transition to parenting is a critical step. Being a father is a phenomena that makes a permanent change and leaves a mark in all aspects of a man's life. St. John et al define fatherhood as a period that leads to changes in family dynamics and social life (24). Postpartum stress, anxiety, and anxiety levels are reported to be associated with so-

cio-demographic features such as earning money for the family, having low socioeconomic level, being single, living alone, and having poor home conditions (23, 25, 26). This study is a case and control study. Therefore, no differences were identified between the groups in terms of such socio-demographic characteristics as age, educational status, and income level.

Being a parent is a life-long process that begins with the decision of the partners about pregnancy. Studies conducted in recent years indicate that fathers wanted to take an active role in this process, but their participation in the pregnancy and birth process was hampered by some traditional, cultural, and social factors and health policies (8). In the limited number of studies in our country, Berkiten found the ratio of fathers' wanting to participate in birth as 67%, and Güngör reported it as 76% (6,14). Fathers' wanting to participate in birth includes many factors in the literature such as wishing to help their spouse, wanting to see the birth of the baby, believing the improvement in marriage and family ties, and wanting to be sure that the baby and the mother are well (6,14). Perry et al. define a child's birth as a turning point for fathers and report that the father's witnessing birth makes birth easier (27). The present study found that the fathers in both groups, with high proportions, wanted to participate in birth. Due to such factors as not wanting to leave their wife alone and enabling them to feel safe with the power they receive from them, the fathers in the experimental group were found to be more willing to participate in birth than the fathers in the control group. This result is parallel to the related literature.

In fact, it has been observed since the primitive societies that fathers do not actively participate in the birth process (9). In the Ottoman Empire, where Islamic culture dominant, it was not possible for fathers to witness birth because they were seen as the leader and authority of the family (8).

The social, cultural and even economic structure of the time period has continuously affected and changed the concept of paternity (9). In this study, fathers' not wanting to participate in birth was found to be at low levels in both groups. Similar to the findings in Güngör's study, this study found that the fathers did not want to participate in birth mostly due to such factors as feeling embarrassed, thinking that it is shameful, and not wanting to see their wives in pain (10).

It is possible to see pregnancy and birth as a period of anxiety and crisis which includes feelings such as anxiety, fear, and curiosity and which requires adaptation to new roles and changes in parents' life (2). Anxiety is described as a state of fear and tension under a threat (28). Spielberger (1971) reports two types of anxiety called "state anxiety" and "trait anxiety". State anxiety is a temporary emotional state that is characterized by the feelings of anxiety and subjective tension and fear, while trait anxiety shows the tendency of anxiety that exists in the individual and is described as the intensification and continuity of the state anxiety (28). A study conducted in Switzerland indicates the prevalence of fathers' fear of birth as 13.6%, and the factors associated with this fear are defined as the decrease in positive emotions as the birth approaches, the desire to give birth in another country, desire to have cesarean section, and becoming a father for the first time (29). In our country, Güngör conducted a study with fathers who partly watched birth and found the most frequently described emotions as anxiety (52%), fear (28%) and helplessness (16%) (10). In another study, it was reported that antenatal training in the presence of a parental educator coach may be beneficial for parents who have fear of birth (14).

Alipour et al. (2011) found that fear of birth increased levels of state and trait anxiety after the 28th gestational week, Melender reported that pregnant women experienced fear and anxiety in the antepartum period because of the concerns that the baby might die or be harmed, and Güngör reported that the anxiety and fear experienced by pregnant women increases fathers' trait anxiety levels (14, 30, 31). This study found that trait anxiety scores of the fathers in the control group were significantly higher in comparison to the experimental group. However, this finding which seems to be in favor of the experimental group was considered to be coincidence because risky pregnancies were not included in the study, and trait anxiety scale was administered to the fathers in the experimental group before the training. On the other hand, state anxiety scores of the fathers in the experimental group were found to decrease significantly after the training, and with the waiting process, these scores were found to increase significantly in the fathers in the control group. This case could be associated with midwives'/nurses' informing, supporting and comforting fathers who came to hospital for birth, which might have increased fathers' self-efficacy and satisfaction, and thus decreased anxiety in the intra-partum period. Although pregnancy and birth are considered physiological events, these periods are stressful for parents. Particularly for those who become

parents for the first time, birth is anticipated with fear and excitement. Therefore, it is reported that training provided during pregnancy and before and after birth strengthens the relationship between the spouses, increases the power to cope with pregnancy and birth problems, and decreases anxiety (32). For this purpose, parents are involved in various initiatives such as receiving advice from health institutions, reading books, following written press, and participating in preparatory classes for birth (33). In their study that investigated antenatal education perceptions of parents who became mother and father for the first time, Sahlin et al. found that 56% of women and 62% of men found antenatal training a positive experience, and 68% of women and 63% of men stated that the training was useful during birth. [34] In this study, parallel to the related literature and the study conducted by Sahlin et al., fathers who had features of planning pregnancy and receiving information about birth and who were provided with training in relation to birth were found to have lower trait anxiety scores in comparison to the fathers who were not given any training.

CONCLUSION

Although birth and transition to parenting can be described as pleasing life events, they could also be described as stressful events. In comparison to the fathers who did not receive any information, the state anxiety levels were found to be lower in the fathers who were systematically informed about the hospital, birth process, newborn and postnatal period while waiting for the birth outside the delivery room. These findings indicate that not only the pregnant women but also their spouses should be provided with training about pregnancy and anxiety about birth in the preconceptional period, antenatal period and birth process. Therefore, it is important for the health personnel working in the field of birth to identify the fears and anxiety of pregnant women and their spouses, and to provide them with counseling accordingly.

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