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The effect of education given to primigravida women on fear of childbirth

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ABSTRACT

Objective: The present study was conducted to determine the effect of education that is given information about the delivery room, labor and coping strategies with the fear of pain of childbirth in primigravida women.
Design: This study was conducted experimentally using pre–post tests and a control group.
Participants and setting: A total of 99 primigravida women with 50 in the study group and 49 in the control group at a maternity hospital in a city of middle region of Turkey were recruited to the study.
Methods: Data were collected using the Pregnant Introduction Form, Interview Form After Delivery and Wijma Delivery Expectancy/Experience Questionnaire (W-DEQ), version A. Verbal informed consent and approval were obtained from the participants and ethical committee. Preparatory labor education was provided in two sessions between pregnancy weeks 28 and 34 to the women in the study group. Fisher, MC Pearson, chi-square, Mann–Whitney U and Wilcoxon t tests were used for statistical data analysis.
Results: In the first interview session, no significant difference was found between W-DEQ-A scores of the study and control groups. The mean pre-education W-DEQ-A score was 61.1 while it was 42.0 post-education in the study group. The post-education W-DEQ-A score was 58.5 in the control group while it was 42.0 in the study group.
Conclusions: It was determined that positive perception regarding birth was provided and fear of childbirth decreased with the preparation education for birth.

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1. Introduction

Pregnant women could experience fear, worry and anxiety because of this unknown and long term period. In this period, especially fear from labor affects most of them (Karaçam & Akyüz, 2011; Kjaergaard, Wijma, Dykes, & Alehagen, 2008; Körükçü, 2009). In Australia and Sweden, the prevalence of fear of childbirth is nearly 20% in pregnant women (Fenwick, Gamble, Nathan, Bayes, & Hauck, 2009; Fisher, Hauck, & Fenwick, 2006; Haines, Pallant, Karlström, & Hildingsson, 2011; Hall et al., 2009; Nilsson & Lundgre, 2009; Salomonsson, Wijma, & Alehagen, 2010; Toohill, Fenwick, Gamble, & Creedy, 2014; Zar, Wijma, & Wijma, 2001). In a study conducted in six European countries, severe childbirth fear among women was determined to be 11.0%; this rate was 11.4% in primiparous women and 11.0% in multiparous women. (Lukasse, Schei, & Ryding, 2014). Studies have reported that 6–10% of pregnant women experience symptoms of anxiety in their daily lives due to childbirth fears (Fisher et al., 2006; Kjaergaard et al., 2008; Rouhe, Salmela-Aro, Halmesm, & Saisto, 2009; Salomonsson et al., 2010), and that the level of fear in primiparous women is higher than in multiparous women (Spice, Jones, Hadjistavropoulos, Kowalyk, & Stewart, 2009; Toohill et al., 2014). Research conducted on adolescents indicates that more than 75% of them fear of childbirth (Anderson & Gill, 2014).

The reasons for fear are as follows; having a disabled baby or baby with a malformation, labor with an operation, being alone in a foreign place, doing something wrong related to her or baby's health and thinking birth process and pain during labor (Serçekuş & Okumuş, 2009; Spice et al., 2009). In addition to these, other reasons for childbirth fear include poor confidence related to inappropriate support from the birth team, feeling inadequate physically and mentally for labor, fear of death, loss of control during birth and the expectation of unendurable pain during labor (Duff, 2004; Eriksson, Westman, & Hamberg, 2006; Geissbuehler & Eberhard, 2002; Kitapçıoğlu, Yanıkkerem, Sevil, & Yüksel, 2008; Kuğu & Akyüz, 2001; Nilsson & Lundgre, 2009; Ryding, Persson, Onell, & Kvist, 2003; Serçekuş & Okumuş, 2009; Spice et al., 2009; Walsh, 2002). Also, in a study it is determined that lack of confidence to birth, fear of the unknown, internalizing other women's negative stories, perineal tearing and labor pain were common concerns for first time mothers. For multiparous women, not having had personal feelings resolved following their previous birth and negative experiences of last birth influenced current expectations for their upcoming birth (Fenwick, Toohill, Creedy, Smith, & Gamble, 2015)

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It is thought that the education given in the last trimester that includes presentation of the labor room, labor process and pain coping strategies would enhance self-confidence through empowerment and decrease the fear of childbirth. This study was aimed to determine the effect of education on fear of childbirth in the primigravida women.

2. Methods

2.1. Study type

The study was conducted experimentally with pre–post tests and a control group to determine the effect of education on fear of childbirth in primigravida women.

2.2. Study setting and participants

The study was conducted at a maternity hospital in a city in central Turkey. The sample size was based on the mean score and standard deviation of Concerns Related to Delivery found in a study by Kitapçıoğlu entitled "Fear of childbirth and the postpartum period: A scale development and validation study" (Kitapçıoğlu et al., 2008). According to this, the worrying score was accepted 6.9, standard deviation was taken as 1.7 and also with this education the mean score is hypothesized as 1-point decrease; minimum sample size was calculated as 48 for both study and control groups with α: 0.05, β: 0.20. A total 188 pregnant women with 94 in the control group and 94 in the experimental group were recruited to the study pregnant women who were admitted to hospital between 24th of March and 13th of May in 2010 and those who met the inclusion criteria were taken as controls. Pregnant women who were admitted to hospital between 18th of October and 30th of December in 2010 were included in the study group and they were educated after collecting the data of controls in order to prevent an interaction between the two groups.

2.3. Inclusion criteria

- Aged 18–35 years,
- Minimum primary school graduate,
- In gestational weeks 28–34,
- Primigravida,
- Single live pregnancy,
- Possessing no risk factors (cardiac diseases, placenta previa, oligohydramnios, preeclampsia, anhydroamnios, diabetes, epilepsy),
- Without communication difficulties,
- Being voluntary,
- No contraindications to vaginal birth.

2.4. Data collection

2.4.1. Pregnant introduction form

This form was developed by researchers based on a literature review (Duff, 2004; Kitapçıoğlu et al., 2008; Loursen, Hedegaard, & Johansen, 2008; Nilsson & Lundgre, 2009; Serçekuş & Okumuş, 2009; Spice et al., 2009; Walsh, 2002). The form consisted of 19 questions related to the pregnant women's demographic and obstetric characteristics and opinions about birth. The socio-demographic data included age, education and occupational status, income level, residence and family type. Obstetric data included number of pregnancy, wanted pregnancy and taking support from their family members during pregnancy. Their demographic and obstetric data were investigated in terms of the effect on fear of childbirth.

2.4.2. Interview form after delivery

This form which included 23 questions was developed to evaluate the feelings, opinions and experiences of the pregnant women about labor.

2.4.3. Wijma Delivery Expectation/Experience Questionnaire (W-DEQ) Version A

This questionnaire was developed by Klaas and Barbro Wijma in 1998 in Sweden and its adaptation to Turkish was completed by Hikmet Öznur Körükçü in 2009. The W-DEQ-A is a 33-item questionnaire. The answers are scored from 0 to 5 and it is a 6-item Likert type scale. Zero means "completely" and 5 means "not at all". On the scale, the lowest overall score is 0 and the highest is 165. A high overall score indicates a high level of fear. The cut-off level is 85, which means that scores of 85 and above demonstrate clinical fear.

- W-DEQ score ≤37 mild level of fear,
- W-DEQ score = 38–65 moderate level of fear,
- W-DEQ score = 66–84 severe level of fear,
- W-DEQ score ≥85 shows clinical fear.

The negative questions on the scale (2, 3, 6, 7, 8, 11, 12, 15, 19, 20, 24, 25, 27, 31) are calculated by reversing to supply an adaptation in the measurement.The scale's Cronbach's α was determined to be 0.88 for primigravida women and 0.90 for multipara pregnant women in Körükçü's study (Körükçü, 2009). In the present study, Cronbach's α was determined to be 0.86.

2.4.4. Education guide for delivery preparation

The relevant guide was prepared to decrease pregnant women's fear of childbirth and provide for successful birth.

The education was planned with the aim of preparing the pregnant women for labor and making them believe they would have a successful labor by using Bandura's social cognitive theory.

The main subjects in the educational training were the characteristics of the labor and delivery room, routine practices in the labor and delivery room and information about labor (Table 1).

2.4.5. The place and time of the education

A policlinic room at the hospital was selected as the education room. Some pictures of mothers and babies and educational posters related to birth were hung on the wall. A computer with a CD driver and woofer system and birth models were used as education materials. Telling, discussing, power point presentations, videos and some techniques

Table 1
The education session, time and used education methods.

Education subjects	Time	Used methods
• Symptoms that indicate the start of labor • Things should be done when the labor has started • Presenting the environment of the hospital and delivery room by videos and the pictures • Preparation of the body for labor and changes • Emotional changes experienced by the mother in preparation to the delivery • Starting time of the second stage of labor	40 minutes	Telling Discussing Demonstration
	10 minute break	
• Showing the delivery table by the pictures and videos • Time spent on the delivery table (duration of the stage) • Breathing and pushing on the delivery table • Introducing the midwives who work at delivery room with their photos (verbal consents were obtained from them) • Episiotomy and episiotomy care • Sharing feelings and thoughts about the second stage of labor • Positive speaking about labor and birth success • Sharing experiences of a woman who gave birth successfully and positively	30 minutes	Telling Discussing Demonstration

directed at skill development were used during the education. The education was given after periodic physical examinations. Also, the education was given in two sessions on the same day. The first session lasted for 40 minutes while the second session lasted for 30 minutes. A 10-minute break was given between the two sessions.

Head nurse of the hospital and midwife in charge of the delivery room were given information about the aim and content of the study. The pregnant women who came for the periodic examination to the polyclinic and met the inclusion criteria were taken to the study. The aim of the study was explained to them and verbal consent was obtained from voluntary participants.

The first interview was conducted during the 28–34th gestational week with both groups. In this interview;

- aim of the study was explained, verbal consent was obtained.
- pregnant introduction form was filled out.
- W-DEQ-A version was administered.

The second interview was conducted during the 38–40th gestational week.

The third interview was conducted in the first 1–24 hours after birth. Before mothers were discharged, interview form after delivery was filled out.

- Interventions for the control group: No other intervention or practice except for routine approaches and practices was conducted in the control group. The W-DEQ-A was re-administered in a face to face interview with the pregnant women who came to the hospital and via phone with women who did not come (32 pregnant women).
- Interventions for the study group: The interventions that were administered to the study group are as follows:

In the first interview education for preparation to delivery was given.

In the second interview the W-DEQ-A was administered in a face to face interview with the pregnant women who came to the hospital and by phone with women who did not come (19 pregnant women) (Fig. 1).

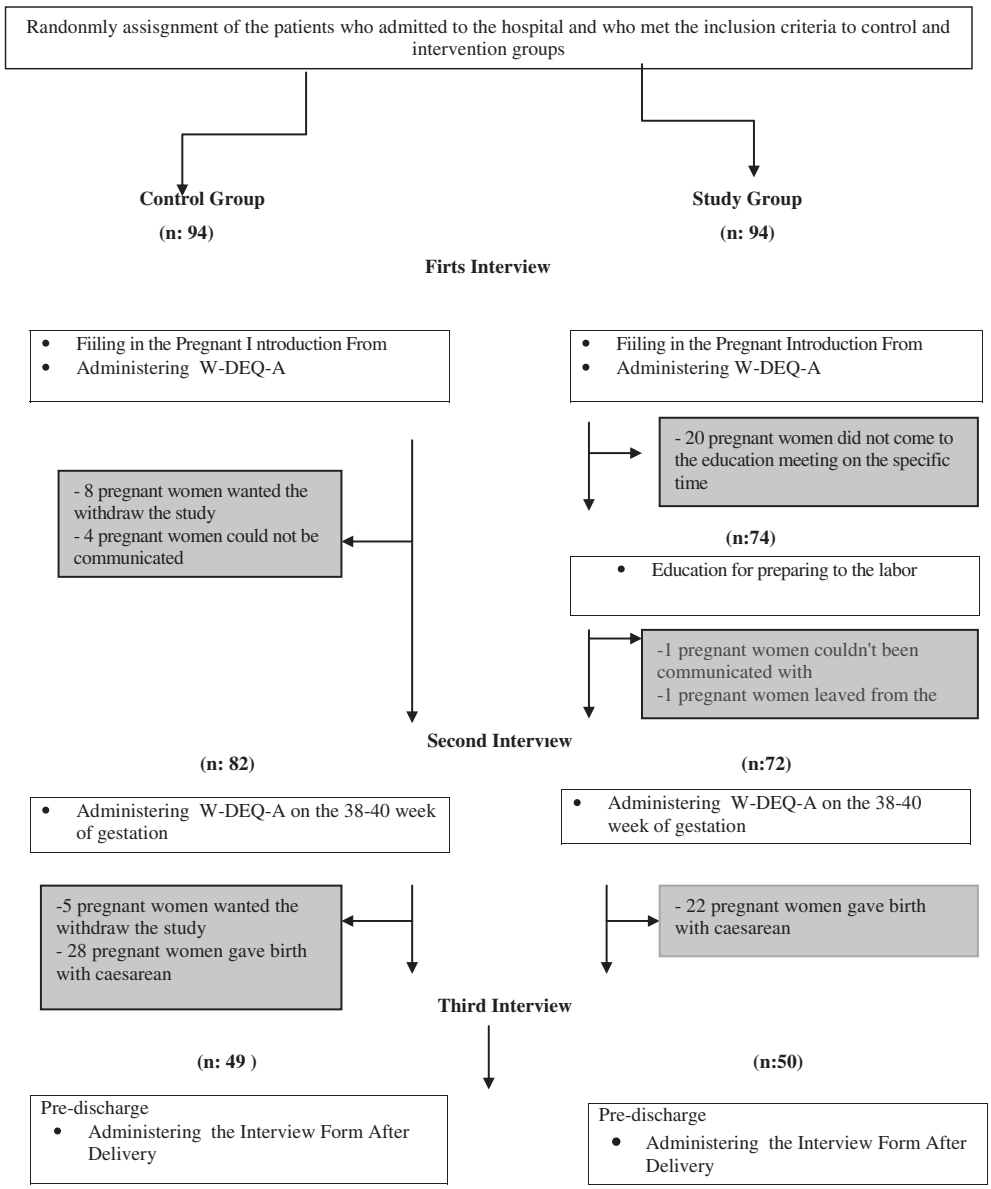


Fig. 1. Study design.

2.5. Statistical data analysis

Data analysis was conducted using the SPSS (Statistical Package Program for Social Sciences) version 13.0. Normal distribution of the data was tested by Shapiro–Wilk test. Nonparametric tests were used to analyze the variables without a normal distribution. Descriptive data about the pregnant women were shown as frequency, percentage and mean ± SD and median. Difference between groups was tested with chi-square, Fisher, MC Pearson tests and two groups were compared with chi-square, Mann–Whitney U and Wilcoxon t tests. $p < 0.05$ was set as statistically significant.

2.6. Ethical issues

Ethical approval from the Ethics Committee of Faculty of Medicine at Erciyes University and written permission from Consumables of the Hospital were taken. The participants provided their written informed consent, in accordance with the Declaration of Helsinki. Permission to the scale was obtained from Hikmet Öznur Körükçü who conducted the Turkish validity and reliability study for the W-DEQ-A.

3. Results

The mean age of the study and control group were 22.2 ± 3.9 and 22.5 ± 3.7 years, respectively. Also, 38.0% of the study group and 44.9% of the control group had graduated from high school. Two groups were similar regarding their socio-demographic characteristics ($p > 0.05$) (Table 2).

It was determined that 82.0% of the study group and 75.5% of the control group had received some information from their relatives or friends and TV or Internet about labor and 50.0% of the study group and 44.9% of controls felt fear due to the information they received.

While the mean pre-education W-DEQ-A score of the study group was 61.1, it was 42.0 after education ($p < 0.001$). It means that their fear level was low after the education. It was found that the mean post-education score of the study group was 42.0 while it was 58.5 in the control group with a statistically significant difference ($p < 0.001$), (Table 3).

Table 2
Socio-demographic characteristics of the pregnant women.

Characteristics	Study group ($n = 50$)		Control group ($n = 49$)	
	n	%	n	%
Mean age (X ± SD, years)	22.2 ± 3.9		22.5 ± 3.7	
	$U = 1167.00$		$p = 0.653$	
Education status				
Primary school	8	16.0	11	22.4
Secondary school	23	46.0	16	32.7
High school and higher	19	38.0	22	44.9
	$\chi^2 = 1.940$		$p = 0.379$	
Occupational status				
Working	8	16.0	3	6.1
Not working	42	84.0	46	93.9
	$\chi^2 = 2.445$		$p = 0.118$	
Income level				
Good	13	26.0	13	26.5
Moderate	32	64.0	35	71.4
Low	5	10.0	1	2.1
	$\chi^2 = 2.791$		$p = 0.299$	
Living place				
City center	36	72.0	29	59.2
Out of city center (village/town)	14	28.0	20	40.8
	$\chi^2 = 1.803$		$p = 0.179$	
Family type				
Nuclear family	19	38.0	22	44.9
Extended family	31	62.0	27	55.1
	$\chi^2 = 0.485$		$p = 0.486$	

Table 3
Distribution of mean, median scores of W-DEQ-A version of the pregnant women and differences in scores before and after the education.

W-DEQ-A	Study group ($n = 50$)	Control group ($n = 49$)		
	$\overline{X}$ ± SD Median [%25p–%75p]	$\overline{X}$ ± SD Median [%25p–%75p]	U[a]	p
Before education	61.10 ± 20.52 61.00 [42.50 to 73.25]	58.51 ± 19.73 55.00 [45.00 to 71.50]	1139.00	0.547
After education	42.02 ± 19.25 36.00 [27.75 to 57.25]	58.48 ± 20.36 59.00 [43.50 to 72.50]	665.500	<0.001
Difference	−15.00 [−29.5 to −7.00]	2.00 [−10.50 to 10.00]	517.000	<0.001
Z[b]	−5.696	−0.695		
p	<0.001	0.487		

[a] Mann–Whitney U test.
[b] Wilcoxon t test.

It was found that the mean W-DEQ-A score in the study group decreased 15 points compared to pre-education however it increased 2 points in the control group ($p < 0.001$), (Table 3).

Some feelings that pregnant women felt after the education during the first stage of the labor were investigated. While 32.0% of the study group told they felt fear too much, this ratio was 44.9% in the control group ($\chi^2 = 6.908$; $p < 0.05$).

It was found that 60.0% of the study group and 42.3% of the control group felt confidence during the first stage of labor ($p > 0.05$) and 46.0% of the study group and 26.5% of the control group never felt fear in the second stage of labor ($\chi^2 = 6.908$, $p < 0.05$).

Some feelings that the pregnant women experienced during the second stage of labor were also investigated; 44.0% of the study group and 20.4% of the control group reported that they never worried ($p < 0.05$) and 42.0% of the study and 20.4% of the controls said that they were never anxious ($p < 0.005$). Also, 74.0% of the study and 40.8% of the control group reported feelings of confidence ($p < 0.005$).

In Table 4, participants confidence perceptions related to labor in the postpartum stage are shown; 80.0% of the study group and 49.0% of the control group reported that they felt themselves well—especially as physical wellness—after the birth ($p < 0.005$) and 64.0% of the study group and 40.8% of the controls reported that they were satisfied from the birth process ($p < 0.05$). It was also determined that 54.0% in the study group and 32.7% in the control group stated that they would choose have a vaginal birth for their next child ($p < 0.005$), (Table 4). It is shown that the study group that took education about preparation for birth feel more confident about themselves than the control group.

In the study group, 66.0% of women expressed that they would advise to give birth vaginally while 51.0% women in the control group would advise it ($p > 0.005$). Also, it was determined that 90.0% women in the study group evaluated the preparation to birth education as good, when their opinions were asked.

4. Discussion

It is suggested that fear of childbirth is higher in primipara women than in multipara women (Spice et al., 2009). In particular, fear of childbirth is more experienced at the last trimester because women focused on birth in terms of its duration, pain that could be felt and afterwards, at this process (Wijma, 2003). Therefore, health professionals should take into consideration the fear of childbirth in pregnant women.

This study aimed to decrease fear of childbirth by providing education and support regarding certain subjects that are thought to be reasons for childbirth fears. It was determined that pregnant women in both study and control groups experienced medium levels of fear according to mean W-DEQ-A scores before the education.

It was noted that there were similar findings in different studies that were conducted in different regions with different sample sizes despite using the same scale at the last trimester of pregnancy (Aksoy, Aksoy,

Table 4
Perceptions of women about confidence related to delivery at postpartum stage.

Statements	Study group ($n = 50$)		Control group ($n = 49$)	
	n	%	n	%
Feelings after birth				
Well	40	80.0	24	49.0
No well no bad	5	10.0	19	38.8
Bad	5	10.0	6	12.2
	$\chi^2 = 12.249$		$p = 0.002$	
Evaluation of coping with pain during labor				
Well	22	44.0	22	44.9
No well no bad	15	30.0	14	28.6
Bad	13	26.0	13	26.5
	$\chi^2 = 0.024$		$p = 0.988$	
Ability to do what was wanted from her at labor				
Well	29	58.0	31	63.3
No well no bad	19	38.0	12	24.5
Bad	2	4.0	6	12.2
	$\chi^2 = 3.638$		$p = 0.179$	
Evaluation of effective pushing at delivery table				
Well	33	66.0	31	63.3
No well no bad	12	24.0	9	18.4
Bad	5	10.0	9	18.4
	$\chi^2 = 1.624$		$p = 0.444$	
Evaluation of self-confidence during labor				
Well	30	60.0	27	55.1
No well no bad	11	22.0	14	28.6
Bad	9	18.0	8	16.3
	$\chi^2 = .567$		$p = 0.753$	
Evaluation of adaptation to the labor				
Well	32	64.0	25	51.0
No well no bad	14	28.0	16	32.7
Bad	4	8.0	8	16.3
	$\chi^2 = 2.316$		$p = 0.314$	
Evaluation of satisfaction from this process				
Well	32	64.0	20	40.8
No well no bad	12	24.0	15	30.6
Bad	6	12.0	14	28.6
	$\chi^2 = 6.293$		$p = 0.043$	
Being willing to give next birth vaginally				
Absolutely I do not	6	12.0	8	16.3
I Do	14	28.0	25	51.0
Absolutely I do	27	54.0	16	32.7
I Do not think giving a next birth	3	6.0	–	–
	$\chi^2 = 9.193$		$p = 0.021$	

Dostbil, Çelik, & Ince, 2014; Alehagen, Wijma, & Wijma, 2006; Fairbrother & Woody, 2007; Fenwick et al., 2009; Kjaergaard et al., 2008; Nieminen, Stephansson, & Ryding, 2009). This finding parallels what is in the literature. In the present study, it was found that fear of childbirth decreased in the study group, while it increased in the control group after preparatory birth education when compared with pre-education ($p < 0.001$; Table 3). It is emphasized that informing pregnant women about coping with pain of labor and preparation for labor are important in the treatment of fear of childbirth (Saısto & Halmesmakı, 2003). In a study of Saisto, Aro, Nurmi, and Halmesmaki (2001), it was determined that a psychosomatic treatment included in cognitive and behavioural exercises and administered by an obstetrician decreased the fear of childbirth (Saisto et al., 2001). The reduction in the fear of childbirth score determined using the W-DEQ-Ain the study group was thought to be resulting from the education which also provided positive perception of labor. Professional support provided during the labor process may improve the woman's feeling of control and skill in coping with pain in addition to preventing any negative experiences (Adams & Bianchi, 2008; Chen, Wong, & Chang, 2001; Larkin, Begley, & Devane, 2009).Through the preparatory education in this study that included information about birth, getting to know the delivery room and learning about the labor process, an increased level of self-confidence affected the reduction in childbirth fear in the first and second stages of labor. It was found that fear during the first and second stages of labor were lower in the study group than in the controls ($p < 0.05$). Providing information and advice to women during birth decreases their anxiety, loneliness and tension; it protects their body images; increases their potential strength and makes coping with labor easy (Sleutel, 2003). The midwives and nurses who give supportive care can increase women's coping skills by talking about the start of labor pain, its reasons and duration (Karaçam & Akyüz, 2011; Sleutel, 2003).

In the present study—as distinguished from other studies—topics related to increasing pain and fear coping ability were discussed between gestational weeks 28 and 34. In the study by Chen et al. (2001), midwives and nurses used certain strategies such as being nearby to the patient, showing empathy, supporting and encouraging women to relief in labor. Of the women, 68.0% found the interventions to be emotionally and psychologically comfortable and 98.0% thought that the interventions decreased their pain by facilitating their ability to control themselves and increasing their feelings of confidence and that the situation was under control (Chen et al., 2001). There are similar studies in the literature showing that women's coping with the labor process is easier when support is provided (Adams & Bianchi, 2008; Larkin et al., 2009; Miltner, 2000; Tumbilin & Simkin, 2001).

In this study, there was no significant difference between the two groups in terms of evaluations of themselves about coping with pain, doing what was wanted from her at the process as being cooperative, effective pushing, being helpful in birthing, self-confidence and adaptation to the act during labor ($p > 0.05$; Table 3). The reason of these evaluations could be their higher expectations from themselves after the education but in fact they did not experience this during the actual labor.

In this study, it was found that the feelings of confidence of the two groups during the first stage of labor were similar. However, in the second stage, the study group felt more confident than controls ($p < 0.05$). According to these results, it is remarkable that the pregnant women felt well in their relationship with midwives. This may result from the support and direction provided by midwives during the second stage of the labor rather than the first stage according to our observations in delivery clinics.

It was determined that the study group felt less anxiety and tension and more confidence than the women of the control group during the second stage ($p < 0.05$). Whereas in this study education was provided only during pregnancy and there were no other different interventions besides the routine for each group during labor. Also, it was determined that the study group felt satisfied and well after the labor ($p < 0.05$). Consequently, it is suggested that introducing the labor room, informing about things that would be done and making explanations in the preparation education were effective and could decrease the fear of childbirth by increasing self-confidence and self-belief.

It has been determined that preferences for giving birth of 66.7% of the women who were given information about natural childbirth were natural childbirth while preferences of the 72.1% of the women who were given information about caesarean section were natural childbirth (Yasar, Şahin-Kır, Çoşar, Nadirgil-Köken, & Cevrioğlu, 2007).

In this study, the ratio of women who said “I will absolutely deliver my next baby vaginally” ($p < 0.005$) and “I will recommend it to other women” ($p > 0.005$) was higher in the study group (Table 4). Similarly, the literature shows that while most of the women who give birth vaginally will want to have a natural childbirth again, nearly half of the women who give birth via caesarean section will want to give birth vaginally the next time (Yasar et al., 2007).

5. Conclusion

By providing prenatal education, it is hoped that, the women would have a better experience, especially in terms of fear of childbirth and physical wellness. As a result of the study, the education for preparation for birth provided positive perceptions regarding labor and decreased fear of childbirth in primigravida women. It is suggested that these educations should be given to pregnant women regularly and continuously.

Conflicts of Interest

No conflict of interest has been declared by the authors.

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