

DOĞUM ÖNCESİ EĞİTİM NULLİPAR KADINLARDA SEZARYEN ORANLARINI AZALTIR MI?

Does Antenatal Education Decrease the Cesarean Rates in Nulliparous Women?

Can TÜRKLER (0000-0003-2716-0322)

ÖZET

Amaç: Son yıllarda sezaryen oranları artmış ve sağlık sistemleri bu durumu düzeltmek için çeşitli yollar denemiştir. Doğum öncesi eğitim programları bunlardan biridir. Bu çalışmanın amacı doğum öncesi eğitimin nullipar kadınlarda sezaryen oranına etkisini belirlemektir.

Gereç ve Yöntemler: Bu retrospektif, kohort bir çalışmadır. Çalışmamıza hastanemizde doğum yapmış 200 nullipar kadın (doğum öncesi eğitim alan grup, n = 86 ve doğum öncesi eğitim almayan grup, n = 114) katılmıştır. Veriler doğum öncesi eğitim sınıfı formlarından ve hasta dosyalarından toplanmıştır.

Bulgular: Doğum öncesi eğitim alan grupta sezaryen oranı % 30,2, eğitim almayan grupta ise sezaryen oranı % 36,8 olarak bulundu. Bu sonuç istatistiksel olarak anlamlıydı ($p < 0,05$).

Sonuç: Doğum öncesi eğitim alan nullipar kadınlarda sezaryen oranı azalmaktadır. Ayrıca, doğum öncesi eğitim programları standartlaştırılmalı ve katılımcıların sayısı tüm dünyada artırılmalıdır.

Anahtar kelimeler: Doğum öncesi eğitim; Sezaryen; Nullipar; Vajinal doğum

ABSTRACT

Objective: In recent years, cesarean rates have increased and healthcare systems have tried several ways to correct this situation. Antenatal education programs are one of them. The aim of this study was to determine the effect of antenatal education on cesarean rates in nulliparous women.

Material and Methods: This is a retrospective, cohort study. In total, 200 nulliparous women who were given birth at our hospital (educated group, n=86 and uneducated group, n=114) participated in the study. Data were collected from the antenatal education class forms and patient files.

Results: The rate of cesarean section in the group receiving antenatal education was found 30.2% and the rate of cesarean section in the uneducated group was 36.8%. It was statistically significant ($p < 0,05$).

Conclusion: The rate of cesarean section decreases in nulliparous women who were taken antenatal education. In addition, antenatal education programs must be standardized and the number of participants should be increased all over the world.

Key words: Antenatal education; Cesarean section; Nulliparous; Vaginal birth

Erzincan Binali Yıldırım Üniversitesi
Tıp Fakültesi Kadın Hastalıkları ve
Doğum Anabilim Dalı, Erzincan,
Türkiye

Can TÜRKLER, Dr. Öğr. Üyesi

İletişim:

Dr. Öğr. Üyesi Can TÜRKLER
Menderes Mah. 127. Sok
No: 7 D Blok D:4 Nar Konutları,
Demirkent/ Erzincan, TÜRKİYE
Tel: 0 506 536 5204
e-mail:
dr_canturkler@yahoo.com

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INTRODUCTION

Cesarean section (CS) is a surgical procedure that is frequently applied in developing and developed countries (1). CS has a lot of risks including anesthesia, blood transfusion, embolism, maternal infection, morbidity and mortality of newborn, abnormal invasion of placenta, uterine dehiscence and rupture, adjacent organ damage, intraabdominal adhesion and it is not cost-effective (2).

According to Organisation for Economic Co-operation and Development (OECD) data, Turkey is located at the first of the list of countries with the most cesarean birth (3). Because of this situation, the TR Ministry of Health is taking various measures to reduce the high cesarean rates in our country, like The Physician Unit Performance Coefficient (PUPC) and antenatal education programs (AEP) (4). AEP, vary from country to country and even from hospital to hospital, and there is no standardization between forms of education (5).

There is a controversy about benefit of AEP to decrease the cesarean rates in the literature. Therefore, the target of our study is to investigate the effect of AEP on type of births and primary CS rates at nulliparous women in our hospital.

MATERIAL AND METHODS

Participants

Two hundred nulliparous women who had given birth in our hospital at last one year, were included in the study. Antenatal education group (Group 1) had 86, and Uneducated group (Group 2) had 114 participants. Routine pregnancy follow-up and births of all participants were performed in our hospital. High-risk pregnancies (preeclampsia, gestational diabetes, multiple pregnancy, oligohydramnios, ...), pregnant women with chronic diseases (diabetes mellitus, essential hypertension, ...), cases with fetal anomalies were not included in the study. In addition, multiparous patients were not included in the study because they had previously experienced birth and had positive or negative opinions about childbirth. Breech presentation was the reason for performing a cesarean section, because of this, all cases who delivered vaginally were vertex presentation.

All nulliparous patients were informed about antenatal education and its content. The participants of antenatal education group (Group 1) were determined on a voluntary basis. Nulliparous patients who did not want to receive antenatal education were also included in Group 2. It was free to attend the antenatal education program.

Content of antenatal education

The AEP of our hospital, consists of theoretical and practical applications, which last for 5 days and where a topic is discussed every day (Table 1). Each training class consisted of 5 or 6 participants. The trainings were given by a single midwife who was experienced and trained about antenatal education at first and second trimester.

Table 1. Antenatal Education Program of our hospital

1. Day	Female reproductive system anatomy
2. Day	Female reproductive system physiology
3. Day	Formation and periods of pregnancy
4. Day	Types of birth and methods of coping with birth pain
5. Day	Postpartum period, breastfeeding and baby care training*

Ethics

The detailed information was given to each participant and written informed consent was obtained about the study. This study was planned and completed in accordance with the Declaration of Helsinki. Our study was approved by the ethics committee of our university. (Ethics Committee Date: 28.06.2018, Number: 25/14).

Statistical analysis

The clinical data were collected from patient files and antenatal education class forms. Demographic characteristics, the type of births (vaginal and caesarean section), causes of caesarean section, birth weights and gender of newborns, 1st and 5th minute APGAR scores and abortion history were recorded. The SPSS 22.0 software was employed for the statistical analysis (SPSS Inc., Chicago, IL). Data as analyzed using the Pearson Chi-Square test, Fisher Exact test, and Mann-Whitney U test. p value of < 0,05 was considered statistically significant.

RESULTS

The study has been conducted on 200 nulliparous pregnant participants who gave birth at last one year in our hospital. From participants who have birth, 86 (43%) are in Group 1 (Antenatal education group) and the remaining 114 (57%) are in Group 2 (Uneducated-Control group).

Demographic characteristics such as maternal age, maternal weight, BMI and gestational week are presented in Table 2.

Table 2. Demographic and clinical findings of the patients and newborns

	Group 1 (n=86)	Group 2 (n=114)	p
Maternal age (years)	26,4 (18-35)	25,5 (17-42)	0,067
Maternal weight (kg)	69,50 ± 11,15	70,15 ± 6,12	0, 588
Maternal BMI (kg/m2)	28,57 ± 2,83	27,04 ± 1,96	0, 124
Gestational age (week)	38,85 ± 1,19	39,10 ± 1,33	0,140
Education status			
Primary school	9(10,5%)	16(14,1%)	0,799
Middle school	12(13,9%)	19(16,6%)	0,797
High school	35(40,7%)	42(36,9%)	0,388
University	30(34,9%)	37(32,4%)	0,747
Abortion history	7(8,1%)	6(5,2%)	0,564
Birth weight	3256,9(2335-4175)	3228,2(2280-4400)	0,078
Gender			
Boy	44(51,2%)	58(50,9%)	0,968
Girl	42(48,8%)	56(49,1%)	0,967
APGAR			
1. minute	7,8	7,9	0,587
5. minute	8,9	8,9	0,888
Type of birth			
Vaginal birth	60(69,8%)	72(63,2%)	
Cesarean section	26(30,2%)	42(36,8%)	0,049*

Group 1: Antenatal education group, Group 2: Uneducated group

The women in the educated group were older than the women in the non-educated group, but it was not statistically significant (26,4 ± 4,94 vs. 25,5 ± 4.10 years; p= 0,067). Also, there were no significant differences between the two groups in gestational week, maternal weight, BMI, education status and abortion history. The comparisons between cesarean rates, clinical findings of the patients and newborns of the two groups have been summarized in Table 2. When the APGAR scores, birth weight and gender of newborns were compared, no significant difference was found.

The cesarean rate is 36,8% in Group 2 and has been found to be significantly high as compared to 30,2% in Group 1 (p<0,05).

The types of vaginal birth, cesarean section reasons and their rates have been summarized in Table 3. Woman's request was 2,4% at Group 1 and 6,2% at Group 2, in CS reasons (p<0,05), and spontaneously vaginal birth rate is higher at Antenatal education group (p<0,05).

Table 3. Types of vaginal birth and cesarean section reasons

	Group 1 (n=86)	Group 2 (n=114)	p
Types of vaginal birth			
Spontaneously	42 (48,8%)	47 (41,2%)	0,048*
Dinoprostone	9 (10,4%)	13 (11,4%)	0,167
Oxytocin	5 (5,9%)	5 (4,3%)	0,058
Epidural	4 (4,6%)	5 (4,3%)	0,061
Vacuum	0	2 (1,7%)	0,211
CS reasons			
Fetal distress	6 (6,9%)	8 (7,1%)	0,152
CPD	7 (8,1%)	8 (7,1%)	0,143
Failure to progress	7 (8,2%)	10 (8,7%)	0,074
Breech presentations	3 (3,5%)	6 (5,3%)	0,083
Macrosomia	1 (1,3%)	3 (2,7%)	0,104
Woman's request	2 (2,4%)	7 (6,2%)	0,041*

Group 1: Antenatal education group, Group 2: Uneducated group, CS: Cesarean section, CPD: Cephalopelvic disproportion

DISCUSSION

CS is a major surgical procedure that may lead to serious complications for mother and fetus (6). Therefore, the World Health Organization (WHO) states that the caesarean rate should not be more than 10-15% (7).

In the last three decades, cesarean section has shown an increase in both developed and developing countries (8). Also the cesarean rates have risen rapidly in Turkey and have reached 50.4% in 2013. Thus, the highest caesarean rate among OECD countries has been determined in our country (3). Healthcare systems are seeking solution to lower cesarean rates. One of them is AEP. But there is a controversy about benefit of AEP.

Ferguson et al. declared that antenatal education does not have any positive effect on labour and birth outcomes, but may decrease the anxiety of mother and increase the partner involvement (9). At another study, it was determined that fear of childbirth decreased with the antenatal education for birth (10). Also Serçekuş and Başkale, declared that antenatal education was found to decrease the fear of childbirth (11).

In 2005, Mehdizadeh et al. found that normal vaginal delivery rates were higher in the antenatally educated group than in the uneducated group. This study covers 200 nulliparous pregnant women and includes birth datas of a single hospital. These characteristics and results show great similarity to my study (12). In 2017, Cantone et al. confirmed the positive effect of antenatal education classes on CS reduction, by their study (13). In my study, the rate of CS decreases in nulliparous women who were taken antenatal education ($p=0,049$). When the participants agree with, the CS has got much more morbidity and mortality than vaginal birth, do not request the CS. Also, women's request option less than Group 2 (6,2%), at Group 1 (2,4%) at my study (Table 3). At Table 3, we explained the types of vaginal birth and cesarean section reasons. Spontaneously vaginal birth rate is higher at Antenatal education group. The most CS reason of two groups was failure to progress. Cantone et al. stated that CS rates are higher in women who have had abortion history, but this factor was not statistically significant at my study ($p=0,564$).

When the literature reviewed; Phipps et al. found higher induction of labour rates, but Escott et al. found lower induction of labour rates at antenatal education groups (14,15). When the patients in the study group were examined, oxytocin and dinoprostone were used for induction of labour but there was no statistical difference in terms of labour induction rates between two groups.

Fabian et al. identified higher epidural rates but Paz-Pascual et al. found lower epidural rates at antenatal education groups (16,17). Fabian et al. declared that, the higher epidural rate depends on that participation in antenatal classes made women more aware of pain relief techniques available. There was no difference between the two groups in terms of epidural rates. This was the main difference of my study from published literature.

When we compared the groups at Table 2, there was no difference about demographic data and education status of participants. There was no difference between the classes both in terms of content and duration. The effectiveness of AEP depend on a few factors, such as education content and educator's experience. We have a standard education program which have given by only one educator and think that the success of our AEP was depend on this two main factor.

When the participants of two groups compared, Phipps et al. found that there was no statistically difference about the birth weight of newborns (14). Artieta-Pinedo et al. stated that also there was no difference in the APGAR scores (18). When my study was examined in terms of birth outcomes (APGAR scores, birth weight and gender of newborns), no statistically significant result was reached between the two groups like with published literature.

The present study has some potential limitations. First, this study contains only the data of one hospital and the number of participants was limited. Second, all the participants of AEP were volunteer. Third, the motivations and level of consciousness of our clinic workers about the decrease the cesarean rates was enough. Therefore, we think that the motivations of

doctors and midwives also important to decrease the cesarean rates.

The rate of cesarean section decreases in nulliparous women who were taken antenatal education in our study. This result should be confirmed in future, prospective large-scale randomized clinical trials. In the coming years, scientific studies on the benefit of antenatal education can provide data to finish this discussion.

CONCLUSION

In conclusion, antenatal education programs must be standardized and the number of participants should be increased all over the world. In addition, doctors and midwives should be trained about the importance of antenatal education.

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REFERENCES

1. Toumi M, Lesieur E, Haumonte JB, Blanc J, D'ercole C, Bretelle F. Primary cesarean delivery rate: Potential impact of a checklist. *J Gynecol Obstet Hum Reprod.* 2018;47 (9):419-24.
2. Çintesan E, Al RA. The effect of increased number of cesarean on maternal and fetal outcomes. *Ginekol Pol.* 2017;88(11):613-9.
3. OECD. Caesarean section. In: Lafortune G. editor. *Health at a glance 2015: OECD indicators.* Paris: OECD publishing; 2015.
4. Sukru Budak M, Temur M. A national measure to reduce primary cesarean rates in Turkey. *J Matern Fetal Neonatal Med.* 2018 Oct 10:1-4.
5. Brixval CS, Axelsen SF, Lauemøller SG, Andersen SK, Due P, Koushede V. The effect of antenatal education in small classes on obstetric and psycho-social outcomes - a systematic review. *Syst Rev.* 2015;4:20.
6. Di Giovanni P, Garzarella T, Di Martino G, Schioppa FS, Romano F, Staniscia T. Trend in primary caesarean delivery: a five-year experience in ABRUZZO, ITALY. *BMC Health Serv Res.* 2018;18(1):514.
7. World Health Organization Human Reproduction Programme. WHO statement on caesarean section rates. *Reprod Health Matters.* 2015; 23(45):149-50.
8. Betrán AP, Ye J, Moller AB, Zhang J, Gülmezoglu AM, Torloni MR. The Increasing Trend in Caesarean Section Rates: Global, Regional and National Estimates: 1990-2014. *PLoS One.* 2016;11(2): e0148343.
9. Ferguson S, Davis D, Browne J. Does antenatal education affect labour and birth? A structured review of the literature. *Women Birth.* 2013;26(1):e5-8.
10. Kızılırmak A, Başer M. The effect of education given to primigravida women on fear of childbirth. *Appl Nurs Res.* 2016;29:19-24.
11. Serçekuş P, Başkale H. Effects of antenatal education on fear of childbirth, maternal self-efficacy and parental attachment. *Midwifery.* 2016;34:166-72.
12. Mehdizadeh A, Roosta F, Chaichian S, Alaghebandan R. Evaluation of the impact of birth preparation courses on the health of the mother and the newborn. *Am J Perinatol.* 2005;22(1):7-9.
13. Cantone D, Pelullo CP, Cancellieri M, Attena F. Can antenatal classes reduce the rate of cesarean section in southern Italy? *Women Birth.* 2017;30(2):e83-e88.
14. Phipps H, Charlton S, Dietz HP. Can antenatal education influence how women push in labour? *Aust N Z J Obstet Gynaecol.* 2009;49(3):274-8.
15. Escott D, Slade P, Spiby H. Preparation for pain management during childbirth: the psychological aspects of coping strategy development in antenatal education. *Clin Psychol Rev.* 2009;29(7):617-22.
16. Fabian HM, Rådestad IJ, Waldenström U. Childbirth and parent-hood education classes in Sweden. Women's opinion and possible-outcomes. *Acta Obstet Gynecol Scand.* 2005; 84(5):436-43.
17. Paz-Pascual C, Pinedo IA, Grandes G, de Gamboa GR, Hermosilla IO, de la Hera AB, et al. Design and process of the EMA Cohort Study: the value of antenatal education in childbirth and breast-feeding. *BMC Nurs.* 2008;7:5.
18. Artieta-Pinedo I, Paz-Pascual C, Grandes G, Remiro-Fernandezdegamboa G, Odriozola-Hermosilla I, Bacigalupe A, et al. The benefits of antenatal education for the childbirth process in Spain. *Nurs Res.* 2010;59(3):194-202.