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The Relationship Between Women's Perspectives on Birth Methods and Their Socio-demographic Characteristics

Kadınların Doğum Şekillerine Olan Bakış Açıları ve Sosyo-demografik Özellikleri ile İlişkisi

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Abstract

Objective: The World Health Organization recommends vaginal delivery while aiming for a cesarean delivery rate of 15% or lower. Factors influencing birth method preference include previous birth experiences and experiences during and after childbirth. Our study aimed to examine the past birth experiences of women who had previously given birth and to identify factors influencing birth method preferences.

Method: A descriptive cross-sectional study, designed as a questionnaire survey, was conducted with 434 participants at the Bahçelievler Memorial Hospital Obstetrics and Gynecology Polyclinic. Socio-demographic characteristics, past birth experiences, and questions related to maternal and infant health were administered face-to-face to voluntary participants. Data analysis was performed using SPSS 25 software. A p-value of <0.05 was considered statistically significant.

Results: As of the date of the study, the average number of vaginal deliveries was 2.48±1.13 (min: 1.0, max: 5.0), while the average number of cesarean deliveries was 1.87±0.79 (min: 1.0, max: 4.0). Reasons for cesarean delivery included stalled labor in 38.0% (n=113) and a history of previous cesarean delivery in 29.3% (n=87). When asked, "If you were to become pregnant again, which delivery method would you prefer?" 73.1% (n=321) answered vaginal delivery, while 26.9% (n=118) answered cesarean delivery. Having had a vaginal delivery in the first birth [odds ratio (OR) =6.54; 95% confidence interval (CI): 3.94-10.85; p<0.001] and the absence of a history of chronic illness (OR =3.68; 95% CI: 1.86-7.28; p<0.001) were significant factors influencing the preference for vaginal delivery.

Öz

Amaç: Dünya Sağlık Örgütü, vajinal yolla yapılan doğumu önerirken sezaryen doğum oranının %15 ve altında olmasını istemektedir. Doğum şekli tercihinde birden fazla faktör etkendir. Çalışmamız ile polikliniğe başvuran daha önce doğum yapmış kadınların geçmiş doğum deneyimlerinin irdelenmesi ve doğum şekli tercihlerinde etkili olan faktörleri öğrenmeyi amaçladık.

Yöntem: Tanımlayıcı kesitsel, bir anket çalışması olarak planlanan çalışma Bahçelievler Memorial Hastanesi Kadın Doğum Polikliniği'nde 439 katılımcıyla yapıldı. Sosyo-demografik özellikleri, geçmiş doğum deneyimleri ve anne bebek sağlığı ile ilgili hazırlanan anket soruları çalışmaya katılmaya gönüllü olanlara yüz yüze uygulandı. Verilerin analizinde SPSS 25 programı kullanıldı. P<0,05 istatistiksel olarak anlamlı kabul edildi.

Bulgular: Çalışmanın yapıldığı tarihe kadar vajinal yolla doğum yapma sayısı ortalaması 2,48±1,13 (min: 1,0, maks: 5,0) iken sezaryen yolla doğum yapma sayısı ortalaması 1,87±0,79 (min: 1,0, maks: 4,0) idi. Sezaryen doğum yapma nedeni olarak %38,0 (n=113) ilerlemeyen doğum eylemi ve ardından %29,3 (n=87) daha önce sezaryen yolla doğum yapmış olmak geliyordu. "Bir gebelik yaşayacak olsanız, hangi doğum yöntemini tercih ederdiniz?" sorusuna (n=321) %73,1 vajinal doğum derken %26,9 (n=118) sezaryen doğum şekli diye cevapladı. İlk doğumun vajinal yol ile gerçekleşmiş olması [olasılık oranı (OO) =6,54; %95 güven aralığı (GA): 3,94-10,85; p<0,001] ve kronik hastalık öyküsünün bulunmaması (OO =3,68; %95 GA: 1,86-7,28; p<0,001) vajinal doğum tercihini etkileyen faktörlerdir.

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Abstract

Conclusion: The previous mode of delivery influences the decision-making process regarding birth method. Women with a history of cesarean delivery prefer vaginal delivery. Experiences during and after previous deliveries are influential in deciding the method of childbirth.

Keywords: Cesarian section, childbirth choices, obstetric delivery, pregnancy

Öz

Sonuç: Doğum şekline karar verme üzerinde daha önce yapılan doğumun şekli etkilidir. Sezaryen doğum hikayesi olan kadınlar vajinal yolla doğum yapmayı tercih etmektedir. Önceki doğum sırasında ve sonrasında yaşananlar doğum şekline karar vermede etkilidir.

Anahtar kelimeler: Doğum, doğum tercihi, hamilelik, sezaryen doğum

Introduction

Childbirth is a multifaceted event that encompasses physical, cultural, and medical dimensions. Vaginal delivery, as one of the physiological modes of birth, generally results in favorable outcomes when the mother is both physically and emotionally prepared. The alternative mode of delivery, cesarean section, is typically preferred in cases of cephalopelvic disproportion, fetal malpresentation, fetal distress, dystocia, macrosomia, or a history of cesarean delivery. Maternal morbidity and mortality rates associated with cesarean sections are reported to be 2 to 7 times higher than those associated with vaginal deliveries (1,2).

In our country, cesarean section—although frequently performed—is often perceived as a substitute for vaginal birth. However, cesarean delivery is associated with several disadvantages, including delayed initiation of breastfeeding, disrupted maternal-infant bonding, and increased risks in subsequent pregnancies. Moreover, the high cost of cesarean births places a considerable economic burden on national healthcare systems (3,4).

The childbirth process poses numerous risks to women during both the intrapartum and postpartum periods (5). Performing cesarean sections without valid medical indications can lead to significant adverse outcomes, including increased maternal and neonatal morbidity and mortality (1). Therefore, determining the mode of delivery is one of the critical decisions to be made during pregnancy.

Various factors influence a woman's choice regarding the mode of delivery. These may include previous birth experiences, recommendations from family and friends, concerns about neonatal health, preferences for specialized healthcare facilities, and participation in prenatal care visits (6). Women's perceptions of delivery methods are often shaped by their prior birth experiences.

The present study aims to explore the birth experiences of women with prior deliveries and to identify factors influencing their current preferences for mode of delivery when presenting at the clinic.

Materials and Methods

This descriptive cross-sectional survey was conducted at the Bahçelievler Memorial Hospital Obstetrics and Gynecology Outpatient Clinic between April 20, 2019 and January 20, 2020. Based on data from the first nine months of the previous year, the estimated number of women aged 15-49 years was approximately 960. Using Epi Info software and assuming a 95% confidence level, the minimum required sample size was calculated as 361 participants.

Two independent researchers informed eligible women (aged 15-49 years with a history of childbirth) about the study. Participants were asked about their previous modes of delivery, place of delivery, reasons for their delivery preferences, the decision-maker regarding the mode of birth, and experiences related to childbirth and to postpartum maternal and neonatal health. Socio-demographic information was also collected through a structured 31-item questionnaire.

Women who voluntarily agreed to participate and signed the informed consent form were interviewed face-to-face using the questionnaire during the study period. A total of 434 women completed the survey.

Ethical approval for the study was obtained from the Local Ethics Committee of Bezmialem Vakıf University on March 19, 2019 (approval no: 06/97).

Statistical Analysis

All statistical analyses were performed using IBM SPSS Statistics version 25.0. Continuous variables are presented as mean ± standard deviation, and categorical variables are expressed as frequencies (n) and percentages (%). The chi-square test was used to compare categorical variables.

To identify predictors of the preferred mode of delivery in a future pregnancy, a multivariable logistic regression analysis was performed. A p-value <0.05 was considered statistically significant.

Results

The mean age of the participants was 32.87±6.76 years (range: 19-49), and 64.7% (n=281) had completed only primary education. While 363 (82.7%) of the participants were housewives, 21 (4.8%) were healthcare professionals. The frequency analysis of participants' demographic data is presented in Table 1.

At the time of the study, the mean number of vaginal births was 2.48±1.13 (range: 1-5), while the mean number of cesarean deliveries was 1.87±0.79 (range: 1-4). Frequency analysis of obstetric data is shown in Table 2. The most commonly reported reason for cesarean section was arrested labor (38.0%, n=113), followed by previous cesarean delivery (29.3%, n=87). Admission to the neonatal intensive care unit after delivery was higher among cesarean births (26.6%, n=50) than among vaginal births (16.7%, n=50).

Table 3 presents the association between responses to the question "If you were to become pregnant again, what delivery method would you prefer?" and various demographic and obstetric variables. Statistically significant associations were found between this question and the following variables: Current occupational sector (p=0.012), method of first delivery (p<0.001), method of most recent delivery (p<0.001), who made the decision regarding the first delivery (p<0.001), who made the decision regarding the most recent delivery (p=0.006), place of the first delivery (p<0.001), and, among those whose first delivery was vaginal, who decided on the delivery method (p=0.044).

To determine the factors influencing the preference for vaginal delivery in a future pregnancy, univariate and multivariate logistic regression analyses were performed (Table 4). In the initial step, each independent variable was analyzed separately, and those found to be significant were included in the multivariate model. The backward likelihood-ratio method was used for variable selection in the multivariate model, producing a simpler, more reliable model by retaining only significant predictors with strong effects.

Only variables related to the first delivery were included in the model, as this experience was common to all participants and a defining event. The literature supports

Table 1. Socio-demographic data of the participants (n=434)

Demographic variables		N or $\bar{x}$ (min-max)	% or mean ± SD
Age		32.0 (19.0-49.0)	32.87±6.76
	19-30 years old	176	40.6
	31-40 years old	194	44.7
	Over 40 years old	64	14.7
Profession	Housewife	363	82.7
	Health worker	21	4.8
	Worker	36	8.2
	Other	19	4.3
Employment status	Yes	72	16.6
	No	362	83.4
Sector of employment (n=72)	Private sector	45	62.5
	State sector	27	37.5
Education status	Illiterate	39	9.0
	Primary education	281	64.7
	High school	64	14.7
	University	50	11.5
Smoking status	Yes	69	15.9
	No	365	84.1
Alcohol use status	Yes	20	4.6
	No	414	95.4
Do you have any chronic diseases?	No	379	87.3
	There is	55	12.7

N: Number, %: Frequency, $\bar{x}$: Median, Min: Minimum, Max: Maximum, Mean: Average, SD: Standard deviation

Table 2. The distribution of data regarding participants' obstetric characteristics

Demographic variables		N or $\bar{x}$ (min-max)	% or mean ± SD
How many births have you had so far?		2.0 (1.0-8.0)	2.47±1.08
	1 birth	75	17.3
	2 birth	171	39.4
	3 and above	188	43.3
Miscarriages (abortions) situation	No	337	77.6
	Yes	97	22.4
Curettage situation	No	354	81.6
	Yes	80	18.4
First delivery method	Vaginal	285	65.7
	Caesarean	149	34.3
Last delivery method	Vaginal	131	69.7
	Caesarean	57	30.3
Who decided the mode of birth? (first delivery)	Doctor	309	71.2
	Myself	125	28.8
Who decided the mode of birth? (last delivery)	Doctor	127	67.6
	Myself	61	32.4
Place of first birth	Private hospital/clinic	192	46.6
	State hospital	220	53.4
Place of last birth	Private hospital/clinic	67	37.6
	State hospital	111	62.4
How would you prefer to give birth if you were pregnant again?	Normal vaginal delivery	321	73.1
	Caesarean section	118	26.9

N: Number, %: Frequency, $\bar{x}$: Median, Min: Minimum, Max: Maximum, Mean: Average, SD: Standard deviation

the notion that the first childbirth experience significantly shapes attitudes toward future delivery preferences and provides a more homogeneous foundation for analysis. Therefore, focusing solely on the first delivery improved the model's predictive power and validity.

In the univariate analyses, several variables were found to be significantly associated with a preference for vaginal birth in a future pregnancy, including vaginal birth in the first delivery [odds ratio (OR) =7.11; 95% confidence interval (CI): 4.46-11.35; p<0.001]; place of delivery (OR =2.52; 95% CI: 1.62-3.93; p<0.001); person deciding the delivery method (OR =2.84; 95% CI: 1.63-4.94; p<0.001); presence of chronic illness (OR =2.79; 95% CI: 1.56-4.99; p<0.001); regular use of medication (OR =2.35; 95% CI: 1.28-4.31; p=0.005); and employment sector (OR =2.96; 95% CI: 1.08-8.07; p=0.034). Occupation was also found to be significant (p=0.005); notably, healthcare professionals were less likely to prefer vaginal delivery (OR =0.21; p=0.001).

In the multivariate model, only three variables remained statistically significant predictors of a preference for vaginal delivery in a future pregnancy. Having a vaginal first delivery (OR =6.54; 95% CI: 3.94-10.85; p<0.001) and absence of chronic illness (OR =3.68; 95% CI: 1.86-7.28; p<0.001) were significantly associated with the outcome; giving birth in a public hospital (OR =1.61; 95% CI: 0.97-2.65; p=0.061) approached significance.

The overall model fit was acceptable (-2LL =401.74), and its explanatory power (Nagelkerke R^2) was 0.277.

Discussion

In our study, we explored women's perspectives on delivery methods by asking, "If you were to experience pregnancy again, which birthing method would you prefer?" The majority of participants expressed a preference for vaginal delivery. The most significant predictor of this preference was the mode of the first birth, with maternal health status also playing an influential role. However, the proportion of women preferring cesarean section was still higher than the rate recommended by the World Health Organization (WHO).

Over the past two decades, studies have documented increases, both globally and nationally (Turkey), in women's

Table 3. Comparison of "If you were to experience pregnancy again, which birthing method would you prefer?" with various variables

Variables	How would you prefer to give birth if you were pregnant again?			
	Group	Vaginal (n=316)	Caesarean section (n=118)	p
Which sector do you work in?	Private sector	33 (71.7)	12 (46.2)	0.031
	State sector	13 (28.3)	14 (53.8)	
Education status	Illiterate	32 (10.1)	7 (5.9)	0.109
	Primary education	208 (65.8)	73 (61.9)	
	High school	46 (14.6)	18 (15.3)	
	University	30 (9.5)	20 (16.9)	
Number of births	1 birth	58 (18.4)	17 (14.4)	0.012[a]
	2 birth	111 (35.1)	60 (50.8)	
	3 and above	147 (46.5)	41 (34.7)	
First mode of delivery	Vaginal	246 (77.8)	39 (33.1)	<0.001
	Caesarean section	70 (22.2)	79 (66.9)	
Last mode of delivery	Vaginal	113 (76.9)	18 (43.9)	<0.001
	Caesarean section	34 (23.1)	23 (56.1)	
Who decided the mode of first birth ?	Doctor	209 (66.1)	100 (84.7)	<0.001
	Myself	107 (33.9)	18 (15.3)	
Who decided the mode of last birth?	Doctor	92 (62.6)	35 (85.4)	0.00
	Myself	55 (37.4)	6 (14.6)	
Place of first birth	Private hospital/clinic	119 (62)	73 (38)	<0.001
	State hospital	21 (91.3)	2 (8.7)	
Place of last birth	Private hospital/clinic	48 (35)	19 (46.3)	0.190
	State hospital	89 (65)	22 (53.7)	
If the first birth was vaginal, who decided on the mode of delivery?	Doctor	141 (57.3)	29 (74.4)	0.044
	Myself	105 (42.7)	10 (25.6)	

p<0.05, Pearson chi-square test

preference for cesarean section, even in the absence of medical indications (7). According to the WHO, the optimal cesarean delivery rate should be 10-15% (8). As of 2014, WHO reported cesarean section rates of 46% in Mexico, 32% in Germany, 33% in the United States, and 37% in Turkey (9). In our study, the vaginal delivery rate was 73.1%, contrasting with a study in China that reported 45.1% of births were vaginal and 54.9% were cesarean deliveries (10). Our cesarean delivery rates align with broader national trends.

Our analysis found that the mode of the first delivery significantly influenced preferences for the mode of subsequent deliveries. Notably, some women who had a cesarean for their first birth expressed a preference for vaginal delivery in a subsequent pregnancy. In line with our findings, Karabulutlu (11) reported that women with a previous vaginal birth were more likely to choose vaginal delivery again, whereas those with a previous cesarean were less likely to do so; this difference was statistically significant.

While cesarean delivery can be life-saving for both the mother and the infant when medically indicated, no evidence supports its benefits in the absence of such indications (12). Increased risks of allergies and childhood asthma among children born via cesarean section may influence the decision to opt for vaginal birth in subsequent pregnancies. Roman et al. (13) found that women with pre-existing illnesses or health issues during pregnancy were more likely to deliver via cesarean section. However, in our study, women with chronic conditions were more likely to prefer vaginal birth, possibly because of associated benefits, such as higher breastfeeding rates, fewer neonatal intensive care unit admissions, and a lower risk of allergic conditions in infants.

A careful evaluation of delivery indications can help mitigate risks and guide women toward appropriate delivery

Table 4. Univariate and multivariate logistic regression results for the variables predicting preference for normal vaginal delivery

	Choosing a normal vaginal birth			
	University		Multivariety	
Variables	**OR (95% CI)**	**p**	**OR (95% CI)**	**p**
Constant	-	-	0.23	**<0.001**
Profession (Ref:Housewife)	-	**0.005**	-	-
Health worker	0.21 (0.08-0.53)	**0.001**	-	-
Employee	1.69 (0.68-4.19)	0.259	-	-
Other	0.75 (0.28-2.05)	0.585	-	-
Which sector do you work in? [Ref:(Government sector)]	2.96 (1.08-8.07)	**0.034**	-	-
Number of births	1.18 (0.96-1.45)	0.110	-	-
First mode of birth [Ref:(cesarean section)]	7.11 (4.46-11.35)	**<0.001**	6.54 (3.94-10.85)	**<0.001**
Who decided on the method of first birth? (Ref:Doctor)	2.84 (1.63-4.94)	**<0.001**	-	
Where did you give first birth? (Ref:Private hospital/clinic)	2.52 (1.62-3.93)	**<0.001**	1.61 (0.97-2.65)	0.061
Have a chronic disease? (Ref:Yes)	2.79 (1.56-4.99)	**<0.001**	3.68 (1.86-7.28)	**<0.001**
Do you use any medication regularly? (Ref:Yes)	2.35 (1.28-4.31)	**0.005**	-	-
Did you breastfeed your baby immediately after first birth? (Ref:No)	1.23 (0.56-2.69)	**0.592**	-	-

R^2: 0.277 -2 loglikelihood=401.74, Method: Backward LR, OR: Odds ratio, CI: Confidence interval

choices. In a study by Mutlu and Yurtçu (14) lower cesarean rates were associated with higher vaginal delivery rates. In our study, most women delivered vaginally, and most reported that their physician made the decision regarding the delivery method. We believe this may reflect the impact of appropriate clinical indications and of national health policies favoring vaginal delivery.

Numerous studies have also shown that educational level, socio-economic status, and environmental factors play roles in determining delivery preferences (3,11,15,16). While Torloni et al. (17) reported higher cesarean rates among women with lower education levels, Gözükara and Eroğlu (3) found no significant association between education level and delivery method (18). In our study, we observed that women with lower education levels more frequently preferred vaginal delivery, whereas more educated women more often preferred cesarean section. A possible explanation is that a considerable proportion of the educated women in our sample were healthcare professionals.

Supporting this, studies in Turkey have shown that approximately half of obstetricians and 56% of healthcare workers consider cesarean delivery safer for the baby (19,20). Thus, the preference for cesarean delivery among educated women in our study may reflect a perception that it is safer.

Common medical indications for cesarean delivery in current practice include prior cesarean delivery, fetal distress, cephalopelvic disproportion, and malpresentation (especially breech) (2). In our study, the most frequently cited reason for cesarean was prolonged labor, followed by a previous cesarean, which is consistent with the literature.

Özkan et al. (15) showed that delivering in the private sector and a lack of information about delivery methods increased cesarean rates. Similarly, in our study, most women who underwent cesarean section did so based on physician-determined indications. Vaginal delivery was more common in public hospitals, while cesarean delivery rates were higher in the private sector. According to Turkey's 2015 health statistics, 70.5% of deliveries occurred in private hospitals, and the institutional cesarean rate was 53.1% (21). In contrast, in our study, more than half of the births took place in public hospitals, which may explain the higher vaginal delivery rate observed.

However, not all studies agree. Karabulutlu (11) found no significant relationship between delivery preference and place of birth.

Study Limitations

This study has several limitations. It is based on self-reported data, making it susceptible to recall bias. Moreover, no objective measurement tools were employed, and the study was conducted within a culturally and socio-

economically homogeneous population, which may limit the generalizability of the findings.

Conclusion

The mode of previous a birth significantly influences women's preferences for the subsequent mode of delivery. Our findings indicate that women with a history of cesarean section often express a preference for vaginal delivery in future pregnancies. Experiences during and after prior births appear to influence this decision-making process. Additionally, women whose delivery mode was determined by their physician were more likely to undergo vaginal delivery.

It is essential that medical indications be carefully evaluated for each pregnancy, as the chosen delivery method can have a lasting impact on preferences for future births. Educating expectant mothers about delivery options during prenatal care is crucial. Developing evidence-based health policies that promote vaginal birth, while clearly communicating the risks associated with elective cesarean delivery, is equally important.

When planning the mode of delivery, women should receive balanced and individualized counseling on the potential risks and benefits of both vaginal birth and cesarean section. This approach helps prepare them for a variety of outcomes and strengthens their involvement in the decision-making process. Prenatal education programs and the active engagement of family physicians play a critical role in empowering pregnant women and providing the necessary guidance and support throughout the prenatal period.

Ethics

Ethics Committee Approval: Ethical committee approval was obtained from the Local Ethic Committee of Bezmialem Vakıf University on 19.03.2019 with the number 06/97 for the study.

Informed Consent: Women who voluntarily agreed to participate and signed the informed consent form were interviewed face-to-face using the questionnaire during the study period.

Footnotes

Authorship Contributions

Surgical and Medical Practices: S.B.A., S.K., Concept: S.B.A., S.K., Design: S.B.A., S.K., Data Collection or Processing: S.B.A., S.K., Analysis or Interpretation: S.B.A., Literature Search: S.B.A., Writing: S.B.A.

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