



RESEARCH

WHY DON'T WOMEN PREFER VAGINAL BIRTH?: THE CASE OF TURKEY

Abstract

This study was aimed to determine the reasons why women did not prefer Vaginal Delivery. This is research cross-sectional in descriptive type. The STROBE statement was used in the planning, implementation, and reporting of the study design. The research was carried out in a private hospital in Turkey, between April 2021-2022. It was conducted with 347 women aged 18-45 years who were not pregnant, and who wanted Caesarean section for their planned pregnancy. The data were obtained by "Obtaining Information Form" and the "The Vaginal Delivery Preference Inventory-TVDPI". The TVDPI score was found to be correlated with education status, previous delivery, the effect of obtaining information about cesarean section, and the effect of witnessing vaginal delivery. It was determined that a one-unit increase in the age and number of the delivery parameters would lead to a decrease of 0.025 points in the probability of affecting TVDPI scores. Women's education level, previous delivery, and obtaining information about delivery patterns affect their delivery preferences. The education level of women, their previous births and their knowledge about the mode of delivery affect their birth preferences. In the choice of birth, the woman should be considered as a whole with her environment and the culture in which she lives.

Keywords: Cesarean section; delivery preference; vaginal delivery.

ARAŞTIRMA

KADINLAR VAJİNAL DOĞUMU NEDEN TERCİH ETMEZ?: TÜRKİYE ÖRNEĞİ

Öz

Bu çalışmada, kadınların vajinal doğumu tercih etmeme nedenlerinin belirlenmesi amaçlandı. Bu, tanımlayıcı tipte kesitsel bir araştırmadır. Çalışma tasarımının planlanması, uygulanması ve raporlanmasında STROBE bildirimini kullanıldı. Araştırma, Nisan 2021-2022 tarihleri arasında Türkiye'de özel bir hastanede gerçekleştirildi. 18-45 yaş arası gebe olmayan, gebeliği planladığı için sezaryen isteyen 347 kadın ile yapılmıştır. Veriler "Bilgi Alma Formu" ve "Vajinal Doğum Tercih Envanteri-TVDPI" ile elde edildi. TVDPI puanının eğitim durumu, önceki doğum, sezaryen hakkında bilgi alma etkisi ve vajinal doğuma tanık olma etkisi ile ilişkili olduğu bulundu. Yaş ve doğum sayısı parametresindeki bir birimlik artışın TVDPI puanlarını etkileme olasılığında 0,025 puanlık bir azalmaya yol açacağı belirlendi. Kadınların eğitim düzeyi, önceki doğumları ve doğum şekli hakkında bilgi sahibi olmaları doğum tercihlerini etkilemektedir. Doğum tercihinde kadının çevresi ve içinde yaşadığı kültür ile bir bütün olarak ele alınmasıdır.

Anahtar Kelimeler: Sezaryen; doğum tercihi; vajinal doğum

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1. Introduction

Vaginal Delivery (VD) is a mode of delivery used by all mammals to continue their lineage. VD has many maternal-fetal-neonatal benefits (1). Cesarean section (C/S) is an emergency surgical operation applied to maintain maternal-fetal-neonatal health. The most common indications for C/S are, dystocia, multiple pregnancy, fetal distress, fetal malpresentation, fetal macrosomia (2). In the presence of medical indication, C/S can effectively prevent maternal-fetal-neonatal mortality-morbidity. There is no evidence on obstetric benefit in the absence of indication for C/S (3,4). As with any surgical operation, C/S is associated with short-long term risks. World Health Organization (WHO) suggests that C/S should be performed only when medically necessary (3).

World Health Organizations (WHO) have stated that the ideal C/S rate should be between 10-15% since 1985 (3). Although C/S can be lifesaving, the rapid increase in the rate of C/S without accompanying evidence of concomitant reductions in maternal-neonatal morbidity-mortality raises significant concerns about the overuse of C/S (2). The C/S rates were reported as 24.5% in Western Europe, 32% in North America, 41% in South America.4,5 According to Population Health Studies 2018 data of our country, 52% of deliveries are C/S (6). Considering the C/S rates per 1000 live delivery in Organization for Economic Co-operation and Development (OECD) countries, it is seen that the first three countries with the highest C/S rates are Turkey (549), Korea (452), Poland (389), respectively. In this respect, it is concluded that the C/S rates performed in our country are considerably higher than the goal level (7).

Preventable causes that increase C/S without medical indication are; fears of VD, lack of sufficient knowledge, the perception of VD as unbearable and difficult, the traumatic VD scenes shown in the media, hearing stories of negative/traumatic vaginal delivery experiences (1,8,9). As a controversial finding, in the Population Health Studies 2018 data of our country report, it was found that C/S rates increased as the mother's education level increased, and the C/S decision was made mostly (62.6%) in

mothers with high school or higher education level (6). The primary target for reducing C/S ratios is; It should be enough to inform pregnant women about the birth patterns with the right resources. The other target is; Midwives who are with the woman during vaginal delivery should have interventions to prevent elective C/S (1,8). Although the birth preferences of pregnant women are examined, the literature on birth preference and the factors affecting this choice in women who are not yet pregnant and planning a pregnancy is very limited. In this study, it was aimed to determine the reasons why women did not prefer VD.

2. Material and Method

The research is cross-sectional type. The STROBE statement was used in the study design.¹⁰ The research was carried out in the Obstetrics and Gynecology Clinic of a Private Hospital in Istanbul between April 2021-2022. The sample of the study consisted of women who were between 18-4 years, not pregnant, planning a pregnancy, and wanted a C/S for their planned pregnancy. The sample size was calculated as 344 with the sample formula of the unknown universe [$n=(1.962)*(0.34*0.66)/(0.052)$]. The study was completed with 347 participants. Post-hoc analysis was performed with the G-Power 3.1. A medium effect size of 0.30, a significance level of 0.05, and a power of 0.996% were determined.

2.1. Data collection

Obtaining Information Form-OIF and The Vaginal Delivery Preference Inventory-TV-DPI were used to obtain data, by face-to-face interview method. The "OIF " consists of 23 questions about women's socio-demographic characteristics, obstetric history, and delivery experience-preferences. For TVDPI, an item pool was created by researchers by making use of the variables in the studies in the literature (1,8,9,11-13). As a result of the pilot study, 30% of the items were eliminated, and 13 items remained. "TVDPI" is a 5-point likert type "1=strongly disagree", "2=disagree", "3=undecided", "4=agree", "5=strongly agree". TVDPI is a single

dimension and the sum of the item scores varies between 13-65. As the total score increases, it is seen that women prefer VD less. For the internal consistency of the question items, Cronbach's alpha (α) coefficient was calculated for each item (α :.083). As a result of the factor analysis, the adequacy of the sample and the sphericity of the data were found to be significant (KMO:0.829 $\chi^2(78)=1360.94$; Bartlett Test of Sphericity $p=0.000$).

2.2. Statistical analysis

The data were evaluated with the statistical package program (SPSS). Results from descriptive statistics were presented as mean, number, percentage. It was determined that the data had a normal distribution (Shapiro-Wilk; p :.065;.080, respectively). In parametric comparisons, Independent Sample t-Test was used for the comparison of two independent groups, One Way Anova test was used for the comparisons of the and more independent groups. Pearson correlation analysis was used to examine three levels of correlation between continuous data. The statistical significance level was accepted as $p<0.05$. Two-way regression analysis was performed on normally distributed variables.

2.3. Ethical Consideration

Institutional permission was obtained from the local Ethics Committee (14.03.2018-E.4646). Declaration of Helsinki was followed. The research was initiated after obtaining a verbal-written Informed Consent Form.

3. Results

The research was carried out with 347 participants. While the mean age of the participants was 27.65 ± 5.55 , 79.8% had a university and/or higher education level, 65.4% were nulliparous, 55% of those who gave delivery before had preferred C/S after VD, 80% of those who gave delivery before had a positive effect on their last delivery, 78.7% obtained information about VD, 86.1% of those had a positive effect. 83% of those who obtained information about C/S, 54.9% of those had a positive effect. It was determined that 74.9% watched videos about VD, and 54.6% of those had a positive effect. It was found that 72.6% watched a video about C/S, and 60.7% of those had a negative effect. It was determined that 45.8% had witnessed a VD before, and 52.2% of those had a positive effect. 41.8% witnessed a C/S, and 51.7% of those had a negative effect. While TVDPI score was found to be associated with education status, previous delivery status, the effect of obtaining information about C/S, the effect of witnessing VD ($p<0.05$), last delivery type, time since last delivery, place of last delivery, the effect of last delivery, the status of obtaining information about VD, the effect of knowledge obtained with VD, the status of obtaining information about C/S, video viewing status of VD, the effect of watched video on VD, video viewing status regarding C/S, the effect of the video watched about C/S, witnessing VD, the status of witnessing C/S, impact of witnessing C/S, the preferred delivery mode was not found to be associated ($p>0.05$) (Table 1).

Table 1. Comparison of women’s sociodemographic and delivery-associated information and TVDPI* score (N=347)

Variables	X±SD(min-max)				
Age	27.65±5.55(18-45)				
Number of deliveries	0.54±0.83(0-3)				
Variables	n	%	Min-Max (Median)	X± SD	F/t;p
Education Status (n=347)					
Primary & Secondary Education	70	20.2	13-60(32.50)	32.72±8.40	-4.018; .000
University and beyond	277	79.8	15-60(37)	36.99±7.81	t;p
Working Status (n=347)					
Working	317	91.4	13-60(36)	36.10±8.14	-.234; .815
Not working	30	8.6	20-51(38)	36.46±7.92	t;p
Living Place (n=347)					
Village/ County	51	14.7	13-52(38)	37.39±8.43	1.413; .245
City	137	39.5	15-60(35)	35.32±7.90	F;p
Metropolitan City	159	45.8	13-60(36)	36.43±8.16	
Birth Status (n=347)					
Yes	120	34.6	13-60(33)	34.19±8.18	-.3.291; .001
No	227	65.4	13-60(38)	37.16±7.89	t;p
Last Birth Type (n=120)					
Vaginal birth	11	9.2	22-44(34)	32.81±7.48	.349; .790
Cesarean delivery (Optional)	15	12.5	24-60(35)	36.00±9.48	F;p
Cesarean section (Physician Request)	28	23.3	20-49(33)	34.03±7.42	
Cesarean delivery after vaginal delivery	66	55	13-57(32)	34.07±8.40	
Time Since Last Birth (n=120)					
In the last year	33	27.5	13-50(32)	33.87±8.05	.125; .882
Between one and two years	18	15	24-48(33.50)	35.05±7.90	F;p
Two years and above	69	57.5	15-60(33)	34.11±8.41	
Place of Last Birth (n=120)					
Public Hospital	22	18.3	13-49(31.50)	31.59±7.93	1.395; .252
University Hospital	15	12.5	20-60(32)	34.33±9.42	F;p
Private Hospital	83	69.2	15-57(34)	34.85±7.98	
Effect of Last Birth (n=120)					
Positive	96	80	15-60(33)	34.83±8.05	1.732; .086
Negative	24	20	13-52(31.50)	31.62±8.37	t;p
Status of Obtaining Information about Vaginal Birth (n=347)					
Yes	273	78.7	13-60(36)	35.87±8.15	-1.131; .259
No	74	21.3	22-60(36.50)	37.08±7.94	t;p
The Effect of Knowledge Obtained with Vaginal Birth (n=273)					
Positive	235	86.1	13-60(36)	35.79±8.14	-.441; .659
Negative	38	13.9	14-52(35.50)	36.42±8.28	t;p
Status of Obtaining Information about Cesarean (n=347)					
Yes	288	83	13-60(36)	35.85±8.07	-1.412; .159
No	59	17	22-60(38)	37.49±8.23	t;p
Effect of Information Obtained About Cesarean Section (n=288)					
Positive	158	54.9	13-57(35)	34.93±8.65	-2.148; .033
Negative	130	45.1	20-60(36)	36.97±7.17	t;p
Video Viewing Status of Vaginal Birth (n=347)					
Yes	260	74.9	13-57(36)	35.98±8.08	-.583; .560
No	87	25.1	20-60(36)	36.57±8.22	t;p

Variables	X±SD(min-max)				
Age	27.65±5.55(18-45)				
Number of deliveries	0.54±0.83(0-3)				
Variables	n	%	Min-Max (Median)	X± SD	F/t;p
The Effect of Watched Video on Vaginal Birth (n=260)					
Positive	142	54.6	13-57(36)	35.21±8.14	-1.691;.092
Negative	118	45.4	14-57(37)	36.91±7.94	t;p
Video Viewing Status Regarding Cesarean Section (n=347)					
Yes	252	72.6	13-57(36)	35.92±8.14	-.803;.423
No	95	27.4	20-60(36)	36.70±8.03	t;p
The Effect of the Video Watched About Cesarean Section (n=252)					
Positive	99	39.3	13-57(36)	35.66±8.70	-.397;.691
Negative	153	60.7	13-53(36)	36.08±7.79	t;p
Witnessing Vaginal Birth (n=347)					
Yes	159	45.8	13-57(36)	36.36±8.01	.484;.629
No	188	54.2	13-60(35)	35.94±8.20	t;p
The Effect of Witnessing Vaginal Birth (n=159)					
Positive	83	52.2	13-57(35)	34.95±7.89	-2.205;.029
Negative	76	47.8	20-57(38)	37.72±8.02	t;p
Status of Witnessing Cesarean Birth (n=347)					
Yes	145	41.8	13-57(36)	36.01±8.00	-.236;.813
No	202	58.2	13-60(36)	36.22±8.20	t;p
Impact of Witnessing Cesarean Birth (n=145)					
Positive	70	48.3	13-57(36)	34.82±8.32	-1.734;.085
Negative	75	51.7	16-52(36)	37.12±7.58	t;p
Preferred Birth Method (n=347)					
Optional CS	141	40.6	14-60(35)	36.38±8.44	.608;.545
CS Due to Medical Indication	160	46.1	13-57(37)	36.26±7.96	F;p
Depends on Being Secondary-Former CS	46	13.3	13-52(34)	34.91±7.61	

t: t test in independent groups. F: One Way Anova.* The Vaginal Delivery Preference Inventory

There was a statistically weak-negative correlation between the age and number of deliveries and the average score from the TVDPI (r: -.106, -.175; p<0.05) (Table 2). In addition, there was a

statistically high-positive significant correlation between age and the number of delivery (r: .550 p<0.05) (Table 2).

Table 2. Correlation of vaginal fear of delivery inventory score by age and number of deliveries (N=347)

	Age		Number of deliveries	
	r	p	r	p
TVDPI*** Score	-.106*	.049	-.175**	.001*
Number of deliveries	.550*	.000	1	-

Pearson Correlation test

Table 3 shows the effects of age and number of deliveries on the total scores TVDPI. According to the results of the regression analysis, when the significance level corresponding to the F value is considered, it was determined that the established model is statistically significant (F=5.440; p<0.05). Two independent variables explain 2.5% of the variance in the dependent variable, the regression model is statistically significant (p<0.05) (Regulated $R^2=0.025$). The

age and number of delivery affected TVDPI scores (B=-0.014, -.167, p<0.05). As a result, it was found that a one-unit increase in the age and number of delivery will lead to a decrease of 0.025 points in the probability of TVDPI scores. There is no autocorrelation problem in the established model. Durbin W value is between 1.5-2.5 (DW=1.768) (Table 3).

Table 3. Multiple regression analysis of TVDPI** score by age and number of delivery (N=347)

Dependent variable	Independent variable	β	Standard Error	Beta	t	p	VIF	F	Model (p)	R2	Durbin Watson
TVDPI** Score	Constant	37.589	2.436	-	15.431	.000*	-				
	Age	-.021	.093	-.014	-.223	.049*	1.434	5.440	0.005*	.025	1.768
	Number of deliveries	-1.625	.619	-.167	-2.626	.009*	1.434				

Abbreviations: r*= Pearson’s correlation. ** p ≤ 0.01.*** The Vaginal Delivery Preference Inventory *p<0.05.** The Vaginal Delivery Preference Inventory

4. Discussion

Vaginal delivery is a mode of delivery that has been going on for years. Generally, the physiological structure of the female body is suitable for VD. With adequate support and appropriate intervention, delivery can be successfully performed. Although C/S, which is a surgical intervention, is life saving for mother-baby when necessary, it can increase maternal mortality-morbidity rates four times when compared to VD. Despite its disadvantages, today’s C/S rates have increased rapidly almost all over the world. There are many factors that cause this increase. One of the most important ones is the elective C/S after C/S (9,11-13).

Especially primiparous whose delivery is approaching are worried about determining the

mode of delivery (1,8). Women’s birth choices are affected by their families, women who have given birth before, and the information they get from social media (14). It was reported that watching the delivery contributes to male nurses’ understanding of women, positive gains after watching delivery, and that students after graduation will be effective in determining the needs of women in their professional lives (15). In another study, it was reported that VD preferences and readiness of pregnant women who were given birth preparation training were positively affected, but women’s fears about VD were not affected (12). In this study, it was determined that the vast majority of the participants had a relationship with the knowledge they had acquired and the video they had watched about the birth before, and

their TVDPI score. Our research findings show parallelism with the literature. In addition to social, and psychological-environmental factors, medical indications affect the delivery patterns that expectant mothers will prefer. Support/information to be given to expectant mothers will help pregnant women to decide on the appropriate delivery mode (16). Some women, for reasons such as having a positive experience of their previous delivery, positive delivery experiences and recommendations of their relatives, satisfaction with the midwife and the hospital, the influence of the media, the belief that VD is healthier, that there are no surgical complications such as C/S, stated that they perceived and preferred VD positively within the scope of a qualitative study (1). In this study, it was observed that the TVDPI Score of women was associated with the effect of giving delivery before, obtaining information about C/S, and witnessing VD. In addition, nearly half of those who had given delivery before reported that they preferred C/S after VD. In this study, it was seen that the majority of the women had a similar last mode of delivery with their preference for the next mode of delivery. Previous experiences and witnessing someone else's delivery may cause women's preference of delivery mode (1,17). Similar and different study results were found in the literature with our research findings. It can be said that the perception of delivery is affected by the multifactorial reason and the preference of delivery is shaped by the effect of the environment and other situations.

Women may be affected by many factors when deciding on the mode of delivery, but the important thing is that pregnant women had informed sufficiently by the truthful sources for healthy mother-baby. It was found that health professions preferred C/S at a high rate, but there was no difference between professions, and it was reported that as the age of first-time pregnancy increases, the preference for C/S increases, and VD decreases. In another study, it was shown that there was a statistically significant relationship between the age and the mode of delivery they preferred, and the preference for C/S increased as the age increased. In the same study, as the number of parity increases, the demand for C/S also increases (17). In this study, it was found that

the preference for VD was affected by the age and number of deliveries. It is determined that our results are similar to the literature. It may be recommended to conduct an informative about delivery preference program, especially in multiparous and advanced age pregnancies. Women's education level, giving delivery before, and obtaining information about delivery patterns affect their delivery preferences. In this study, it was observed that the preference for VD was affected by the age and number of deliveries. In addition, it was found that women had access to videos and information about delivery patterns, whether safe or not, and it was associated with the TVDPI score.

The limitations of the study are that the study was conducted in a single clinic and could not be generalized to pregnant women since it was conducted with non-pregnant women. At the same time, the strengths of the study are that only women who do not prefer VD and who are pregnant/planning pregnancy are included in the sample, and the sample was found to be sufficient for generalization in the post-hoc analysis. Another strength of the research is that it is quite sufficient to measure the situation of not preferring VD in the analysis of the inventory used, and it can be said that the data is examined with advanced analysis techniques.

5. Conclusions

The education level of women, their previous births and their knowledge about the mode of delivery affect their birth preferences. It can be thought that more studies should be conducted to value the effectiveness and to provide education about the delivery patterns of women of childbearing age starting from the pre-pregnancy period. It is especially important that midwives support women in every period about their childbearing age and provide consultancy in terms of obtaining true information. In addition, considering the woman as a whole with her environment and the culture in which she lives in the choice of delivery, which is an important part of women's life, can increase vaginal deliveries.

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