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Research Article

HEALTHCARE PROFESSIONALS' ATTITUDES TOWARDS VAGINAL BIRTH AFTER CESAREAN SECTION; ISTANBUL EXAMPLE

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Abstract: *Rapidly increasing cesarean birth rates around the world continue to cause concern. Repeated cesarean sections are the most important cause of this increase. Vaginal birth after cesarean section (VBAC) is a good solution but is not used widely enough in clinical practice. This cross-sectional descriptive study aimed to determine the attitudes of healthcare professionals toward VBAC and the factors that affect them. The study was conducted at a maternity hospital in Istanbul and the sample included 254 healthcare professionals. The data were collected using a personal information form and the VBAC Attitudes Form. Percentages, means, Pearson's chi-squared test, the Kruskal-Wallis H test, and the Mann-Whitney U test were used. The threshold for statistical significance was p<0.05. Of the participants, 66.1% saw VBAC as an effective mode of birth, 68.5% thought that it should be widely used in Turkey, and 85.4% thought that women have the right to request VBAC. But only 53.5% knew that Turkey has national VBAC management guidelines, and 37.8% would recommend VBAC to pregnant women. Their mean score for seeing VBAC as a safe mode of birth was 5.15±2.19 (min:0-max:10), and the score for willingness to work on VBAC teams was 4.95±3.42 (min.0-max:10). The factors that affected their attitudes towards VBAC were: being less than 25 years old, higher education levels, one to three years of professional experience and being female(p<0.05). The participants had positive attitudes about VBAC in theory but remained reluctant about it in their clinical practice. The participants who were less than 25 years old, female, had higher education levels, and had one to three years of professional experience had more positive attitudes towards VBAC.*

Keywords: *Attitudes, cesarean sections, healthcare professionals, vaginal birth after cesarean section*

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1. Introduction

Vaginal birth is defined as a natural birth process that does not usually require significant medical intervention. World Health Organization (WHO) recommends vaginal birth for women. Because in comparison to other methods of childbirth, vaginal birth is the simplest, safest, and most cost-effective process of birth. On the other hand cesarean section (C-section) is considered a mother-friendly surgical operation that protects maternal and infant health. The ideal application rate for C-section is between 10-15% [1, 2]. C-section births above this rate are not related to reductions in maternal and infant mortality [2-4]. However, the rate of 10-15% has been exceeded in many countries over the years due to C-sections without indication [1, 2]. The dictum, once a C-section always a C-section, leads to routine repeat cesarean sections (RRCs) even if the first one was carried out without indication, and this multiplies the rate of c-sections [5, 6]. The negative effects of RRCs on maternal and infant health and the health economy are

becoming clearer every day, and ethical debates on the subject are emerging [6-10]. A consensus around the world on reducing C-section rates to their ideal limits has been reached. Vaginal birth after cesarean section (VBAC) has been shown to be an effective method to reduce RRC [2, 3, 11]. However, interest in VBAC has varied over the years and from country to country [5,11-15].

Although VBAC is the only way to reduce RRC, the response is not at the desired level. This is due to obstetric factors, fear of childbirth, legal responsibilities and fear of malpractice, cultural differences, the nature of healthcare systems, difficulty accessing VBAC services, midwives' lack of autonomy in labor management, doctors having the last word about the type of delivery, lack of cooperation among team members, healthcare workers' negative attitudes, the lack of childbirth preparation education, the nature of prenatal services, failure to encourage VBAC, policies and lack of birth support [14-19].

In 2017, Turkey's rate of 53.1% was the highest cesarean section rate among OECD (Organisation for Economic Co-operation and Development) countries, so policies were developed to reduce its alarming cesarean rate [20, 21]. However, there is no official evidence that VBAC is widely practiced in clinics [22, 23]. VBAC is not widely used in Turkey, and obstacles are preventing it. The attitudes of healthcare professionals are among the factors that affect the prevalence of VBAC. However, a review of the literature found that there are not enough studies on this subject in Turkey, so this study was conducted to determine the attitudes of healthcare professionals toward VBAC and the factors that affect them.

Study questions

1. What are the attitudes of health professionals towards VBAC?
2. What are the factors that affect the attitudes of health professionals towards VBAC?

2. Materials and Methods

2.1. Study design and population

This cross-sectional descriptive study was conducted from February 11, 2019, to October 31, 2019, in a state hospital in Istanbul. Istanbul is the largest city in Turkey and the city with the highest cesarean section rate (53.5%). Of the C-sections, 37.9% were performed before uterine contractions started. Hospital, where the study was conducted actively, provides prenatal education, and physicians and midwives jointly provide labor and birth support. The hospital is also one of the few health institutions in Istanbul that provides counseling, examination, birth and postpartum care, and support services for expectant mothers who are considering VBAC. This hospital was chosen for the study because of these features.

The sample size of the study was calculated to require 260 participants with a 0.05 confidence interval and a 95% sampling error based on the hospital's 807 midwives, nurses, and physicians. A total of 400 people were invited to participate in the study. However, 134 people did not want to participate, and 12 people were excluded because they did not fill out the forms completely, so the study was completed with 254 participants. The inclusion criteria were: actively working as an obstetrician, midwife, or nurse, voluntary participation, and filling out the questionnaires completely.

2.2. Data collection tools

2.2.1 The Personal Information Form

The form was developed by the researchers to determine the sociodemographic characteristics that affect attitudes towards VBAC. It has five questions about age, gender, education level, occupation, and professional experience.

2.2.2 The VBAC Attitudes Form

After a review of the literature, this form was developed by the researchers to determine attitudes towards VBAC [14, 15, 24, 25]. The form has seven questions. The responses to the first five items are: I agree, I disagree. These items are: "VBAC is an effective method for reducing cesarean section rates", "Pregnant women with previous C-sections should have the right to request VBAC", "VBAC should be widely used in Turkey", "Turkey has national VBAC management guidelines", and "I would recommend VBAC to pregnant women with previous C-sections". The form has two questions that use the Visual Analog Scale (VAS) for responses. Although the one-dimensional VAS was developed for the assessment of pain, it is also used to determine the opinions of individuals regarding specific situations[26]. They are asked to rate their opinions on a scale of 0 to 10, with 0 meaning not at all, and 10 meaning very much. On the VAS, 0-3 is low, 4-6 is moderate, and 7-10 is high [27]. In this study, the two VAS questions were: How safe do you think is VBAC as a method of birth? and how willing are you to work on a VBAC team?

2.3. Data collection

Data were collected during daytime work hours in order not to interfere with the functioning of the clinics. The researchers visited the clinics, and after they had obtained the participants' consent, they asked them to fill out the personal information form and the VBAC Attitudes Form. The forms were filled out by the participants and collected in sealed envelopes.

2.4. Statistical analysis

The study data were analyzed using SPSS 24.0 software. The distribution of the descriptive characteristics and their responses to the VBAC Attitudes Form was identified using frequencies. Normality distributions of the scores were analyzed using the Kolmogorov-Smirnov test. As the data set did not meet the assumptions of the normal distribution, the study utilized the nonparametric test statistics Kruskal-Wallis H test and the Mann-Whitney U test were used. The threshold for statistical significance was $p<0.05$.

2.5. Ethical considerations

Before the study, ethical approval was obtained from the Zeynep Kamil Women and Children Diseases Training and Research Hospital Ethics Committee (February 6, 2019; approval number 26). Written consent was obtained from the hospital administration, and written and verbal consent was obtained from the participants by means of a voluntary consent form prepared in accordance with the Declaration of Helsinki.

3. Results

Sociodemographic characteristics and responses to the VBAC Attitudes Form of the participants is shown in Table 1.

Table 1. Distribution of the participants' descriptive characteristics and their responses to the VBAC Attitudes Form (N=254)

	n (%)
Age group (*30.18±7.66, min: 20, max: 53)*	
25 years or younger	94 (37.0)
26-35 years	98 (38.6)
36 years or older	62 (24.4)

Table 1. Continued.

	n (%)				
Gender					
Female	210 (82.7)				
Male	44 (17.3)				
Education level					
Health Vocational High School/Associate's Degree	30 (11.8)				
Bachelor's degree	179 (70.5)				
Postgraduate	45 (17.7)				
Occupation					
Physician	25 (9.8)				
Midwife	74 (29.1)				
Nurse	155 (61.0)				
Professional experience *(8.78±7.88 min: 1 / max: 35)*					
1-3 years	87 (34.3)				
4-9 years	80 (31.5)				
10 years or more	87 (34.3)				
VBAC is an effective method for reducing C-section rates					
I agree	168 (66.1)				
I disagree	86 (33.9)				
Women with previous C-sections should have the right to request VBAC					
I agree	217 (85.4)				
I disagree	37 (14.6)				
VBAC should be widely used in Turkey					
I agree	174 (68.5)				
I disagree	80 (31.5)				
Turkey has national VBAC management guidelines					
I agree	136 (53.5)				
I disagree	118 (46.5)				
I would recommend VBAC to pregnant women with previous C-sections					
I agree	96 (37.8)				
I disagree	158 (62.2)				
	n	**$\bar{x}$**	**s**	**Min**	**Max**
Mean VAS score for finding VBAC safe	254	5.15	2.19	0	10
Mean VAS score for being willing to work on a VBAC team	254	4.95	3.42	0	10

This study made a comparison of considering VBAC as an acceptable birth method, women having the right to request VBAC, VBAC should be widely used in Turkey, Turkey has national VBAC management guidelines and some features (Table 2). Analysis results showed that the ratios of finding VBAC as an effective method of reducing C-sections were higher for the participants who were 25 years old or younger and the participants with one to three years of professional experience. But it was lower for the participants with health vocational high school diplomas or associate's degrees ($p<0.05$). On the other hand, the women agreed with 'pregnant women should have the right to request VBAC' more than the men ($p<0.05$). Also, the rate of agreement that VBAC should be widely used in Turkey' was higher for the participants who were 25 years old or younger and the participants with one to three years of professional experience ($p<0.05$). Similarly rate of knowing that Turkey has national VBAC management guidelines was significantly higher for the participants who were 25 years old or younger, the participants who had one to three years of professional experience, the participants who were male, and the participants who were physicians ($p<0.05$). However, there were no statistically significant differences in the participants' willingness to recommend VBAC to pregnant women by demographic characteristics ($p>0.05$).

Table 2. Comparison of the participants' characteristics and their opinion about VBAC (N=254)

	VBAC as an effective birth method		Women have the right to request VBAC		VBAC should be widely used in Turkey		Turkey has national VBAC management guidelines		I would recommend VBAC to pregnant women with previous C-sections.	
	I agree	I disagree	I agree	I disagree	I agree	I disagree	I agree	I disagree	I agree	I disagree
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
Gender										
Female	142 (67.6)	68 (32.4)	186 (88.6)	24 (11.4)	144 (68.6)	66 (31.4)	97 (46.2)	113 (53.8)	79 (37.6)	131 (62.4)
Male	26 (59.1)	18 (40.9)	31 (70.5)	13 (29.5)	30 (68.2)	14 (31.8)	39 (88.6)	5 (11.4)	17 (38.6)	27 (61.4)
P	0.277		0.002*		0.960		0.000*		0.899	
Age group										
25 years or younger	76 (80.9)	18 (19.1)	80 (85.1)	14 (14.9)	78 (83.0)	16 (17.0)	62 (66.0)	32 (34.0)	41 (43.6)	53 (56.4)
26-35 years	63 (64.3)	35 (35.7)	87 (88.8)	11 (11.2)	64 (65.3)	34 (34.7)	47 (48.0)	51 (52.0)	28 (28.6)	70 (71.4)
36 years or older	29 (46.8)	33 (53.2)	50 (80.6)	12 (19.4)	32 (51.6)	30 (48.4)	27 (43.5)	35 (56.5)	27 (43.5)	35 (56.5)
P	0.000*		0.362		0.000*		0.008*		0.056	
Occupation										
Physician	12 (48.0)	13 (52.0)	20 (80.0)	5 (52.0)	14 (56.0)	11 (44.0)	20 (80.0)	5 (20.0)	13 (52.0)	12 (48.0)
Midwife	46 (62.2)	28 (37.8)	66 (89.2)	8 (10.8)	46 (62.2)	28 (37.8)	41 (55.4)	33 (44.6)	33 (44.6)	41 (55.4)
Nurse	110 (71.0)	45 (29.0)	131 (84.5)	24 (15.5)	114 (73.5)	41 (26.5)	75 (48.4)	80 (51.6)	50 (32.3)	105 (67.7)
P	0.055		0.464		0.081		0.012*		0.060	
Professional experience										
1-3 years	72 (82.8)	15 (17.2)	73 (83.9)	14 (16.1)	71 (81.6)	16 (18.4)	59 (67.8)	28 (32.2)	38 (43.7)	49 (56.3)
4-9 years	50 (62.5)	30 (37.5)	73 (91.3)	7 (8.8)	51 (63.8)	29 (36.3)	39 (48.8)	41 (51.3)	27 (33.8)	53 (66.3)
10 years or more	46 (52.9)	41 (47.1)	71 (81.6)	16 (18.4)	52 (59.8)	35 (40.2)	38 (43.7)	49 (56.3)	31 (35.6)	56 (64.4)
P	0.000*		0.186		0.004*		0.004*		0.366	
Education level										
Health Vocational High School/Associate's Degree	10 (33.3)	20 (66.7)	25 (83.3)	5 (16.7)	20 (66.7)	10 (33.3)	11 (36.7)	19 (63.3)	14 (46.7)	16 (53.3)
Bachelor's degree	128 (71.5)	51 (28.5)	154 (86.0)	25 (14.0)	123 (68.7)	56 (31.3)	100 (55.9)	79 (44.1)	61 (34.1)	118 (65.9)
Postgraduate	30 (66.7)	15 (33.3)	38 (84.4)	7 (15.6)	31 (68.9)	14 (31.1)	25 (55.6)	20 (44.4)	21 (46.7)	24 (53.3)
P	0.000*		0.908		0.973		0.143		0.168	

$\chi 2$: Pearson's chi-squared test, *$p<0.05$

The comparison of the participant's characteristics and their mean VAS scores for the question of how safe they considered VBAC and their willingness to work on VBAC teams are shown in Table 3. The women and the participants with postgraduate educations found VBAC safer ($p<0.05$). Also, the participants who were 25 years old or younger and the participants with one to three years of professional experience were more willing to work on VBAC teams ($p<0.05$). Contrary the participants with postgraduate educations were less willing to work on VBAC teams ($p<0.05$).

Table 3. Comparison of the participants' characteristics with mean VAS score for finding VBAC safe and being willing to work on a VBAC team (N=254)

	VAS scores for finding VBAC safe				**VAS scores for being willing to work on VBAC teams**			
	n	$\bar{x}$	s	p	n	$\bar{x}$	s	p
Gender								
Female	210	5.44	2.01	0.000*	210	5.07	3.52	0.236
Male	44	3.77	2.51		44	4.41	2.90	
Age group								
25 years or younger[1]	94	5.40	1.60	0.072	94	6.10	2.97	0.001** 1-2 1-3
26-35 years[2]	98	5.33	2.40		98	4.32	3.34	
36 years or older[3]	62	4.48	2.50		62	4.23	3.78	
Occupation								
Physician[1]	25	4.92	2.72	0.616	25	4.12	4.04	0.475
Midwife[2]	74	5.01	2.25		74	4.95	3.67	
Nurse[3]	155	5.25	2.08		155	5.09	3.19	
Professional experience								
1-3 years[1]	87	5.29	1.40	0.627	87	6.10	2.90	0.001** 1-2 1-3
4-9 years[2]	80	5.24	2.53		80	4.19	3.33	
10 years or more[3]	87	4.93	2.50		87	4.51	3.71	
Education level								
Health Vocational High School/Associate's Degree[1]	30	4.20	3.27	0.001** 1-3	30	4.90	4.44	0.005** 1-3
Bachelor's degree[2]	179	5.21	1.94	2-3	179	5.34	3.06	2-3
Postgraduate[3]	45	5.53	2.13		45	3.44	3.70	

*p<0.05(Mann-Whitney U test), **p<0.05 (Kruskal-Wallis H test)

4. Discussion

More than half of the participants thought that VBAC is an effective method of birth and believed that it should be widely used in Turkey. The majority thought that pregnant women have the right to request VBAC. Although these findings were not at the desired level, they show that the participants were positive about VBAC in theory. However, only half of the participants knew that Turkey has national VBAC management guidelines, only a few of them would recommend VBAC to pregnant women with previous C-sections, they saw VBAC as only moderately safe, and they were only moderately willing to work on a VBAC team. These facts indicate that they were hesitant about VBAC in the clinical setting. A study conducted in Turkey found that only 32.4% of participants believed that VBAC should be widely used. The same study found that only 20.7% of the participants said that they or their spouses wanted to give birth with VBAC [25]. Another previous study reported that most health professionals (82.1%) believed that women have the right to demand VBAC, while few (25.3%) would

recommend it to pregnant women, and few (26.3%) wanted to join VBAC teams [24]. In some European countries with low VBAC rates, clinicians' negative attitudes towards VBAC play a substantial role in keeping VBAC rates low [15]. In some European countries with high VBAC rates, most health professionals have positive attitudes towards VBAC and consider VBAC the first alternative for pregnant women with previous C-sections unless there is a medical contraindication [14]. The results of similar studies in Turkey indicate that health professionals' attitudes about VBAC may be related to low VBAC rates. The fact that VBAC rates are high in countries where healthcare professionals have positive attitudes toward VBAC also supports this conclusion.

This study also examined the factors that are thought to affect attitudes toward VBAC. The participants who were 25 years old or younger and the participants with one to three years of professional experience found VBAC more effective, wanted it to be widely used in Turkey, were better informed about Turkey's national health policy on the subject and were more willing to work on VBAC teams than the participants with more professional experience. Ünsal et al., (2017) reported that age and professional experience did not affect considering VBAC a safe method of birth [25]. Uçar et al., (2018) found that older participants with more professional experience had more VBAC experience. However, they presented no evidence that this was voluntary [24]. Unlike the previous studies, this study found that younger health professionals in Turkey had more positive attitudes toward VBAC. These attitudes should be protected and improved because they will play an important role in reducing C-section rates and increasing VBAC rates in the future.

In this study, the rate of participants with health vocational high school diplomas or associate's degrees who saw VBAC as an effective method of reducing C-section rates was lower than that of the participants with undergraduate or postgraduate educations. On the other hand, the participants with postgraduate educations found VBAC safer than the participants with other education levels, indicating that education positively affects attitudes towards VBAC. Ünsal et al., (2017) reported that education affects healthcare professionals' attitudes toward VBAC [25]. However, this study's participants with postgraduate educations were less willing to work on VBAC teams than its participants with other education levels. This indicates that education level alone will not suffice to increase the willingness to join VBAC teams.

In this study, more male participants knew about Turkey's national VBAC management guidelines than female participants. However, the males also found VBAC less safe and were less likely to affirm that pregnant women have the right to request VBAC. This indicates that the female participants had more positive attitudes toward VBAC. Unlike this study, Ünsal et al., (2017) reported that gender did not affect seeing VBAC as safe [25].

Physicians determine the method of birth and increasing C-section rates in Turkey [28, 29]. The results of studies of the differences in VBAC attitudes by occupation are contradictory. Kısa et al., (2017) reported that midwives believe that C-section rates were much higher than physicians and that VBAC will be an effective way of reducing C-section rates [30]. Ünsal et al., (2017) found that occupation did not affect beliefs about whether VBAC is safe or not [25]. A study conducted in Iran found that the willingness of physicians, who were seen as the authorities on modes of birth, was the most important condition for the implementation of VBAC. The same study reported that midwives were not included in the process of determining the method of birth, although they take part in labor, and that this was an obstacle to the spread of the use of VBAC in Iran [18]. A study conducted in Australia found that midwives support women's choice of VBAC more than physicians [17]. A previous study in the same country found that fewer midwives advocated VBAC than physicians [31]. A study conducted in a country with high VBAC rates found that the support of the healthcare system and collaboration between midwives and physicians were the main factors in VBAC success [14]. On the other hand, VBAC rates were low and C-section rates were high in countries where physicians have

the last word on birth methods [16]. None of this study's findings support the hypothesis that occupation affects attitudes toward VBAC. Based on our findings and the literature, physicians, midwives, and nurses should all be encouraged to increase their motivation to increase VBAC rates.

5. Conclusion

More than half of the participants in this study saw VBAC as an effective method for reducing C-section rates and thought that it should be widely used in Turkey and that pregnant women should have the right to request VBAC. However, their rates for being willing to recommend VBAC, knowing that Turkey has national VBAC management guidelines, finding VBAC safe, and being willing to join VBAC teams were low. Like previous studies, the education levels of healthcare workers affected their attitudes towards VBAC, but unlike other studies, the occupation had no effect. Unlike other studies, this study found that age, gender, education level, and occupational experience affected VBAC attitudes. The participants who were less than 25 years old, had higher education levels, were female and had one to three years of occupational experience had more positive attitudes towards VBAC.

Based on the results of this study, it is recommended to develop certificate programs that will increase the motivation and courage of especially healthcare professionals to practice VBAC in clinics.

Limitations of the study: This study's results can only be generalized to its participants.

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Authors' Contributions:

R.M: Conceptualization, Methodology, Formal analysis, Writing - Original draft preparation

T.Y.E: Conceptualization, Methodology, Investigation, Formal analysis

All authors read and approved the final manuscript.

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