

Exploring barriers and facilitators of vaginal birth after caesarean section (VBAC), awareness, and preferences among females in Western Saudi Arabia

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ABSTRACT

Background: Women with a history of previous Cesarean Sections (CS) are faced with two choices during their pregnancy: Vaginal Birth After Cesarean (VBAC) or Elective Repeat Cesarean Delivery (ERCD). VBAC refers to vaginal delivery in women who have previously undergone a CS. **Objectives:** Despite limited studies on VBAC in Saudi Arabia, this research aims to assess the knowledge and awareness of Saudi women regarding VBAC. **Methodology:** This cross-sectional study was conducted among adult females in Western Saudi Arabia utilizing a convenient snowball sampling technique. The total number of participants was 901 females. The participants completed a self-administered questionnaire, which covered general information, knowledge about VBAC, and factors influencing their decision. Statistical analysis employed Chi-squared, Independent T-Test, and ANOVA. **Results:** Our findings revealed that 67.5% of participants had inadequate knowledge about VBAC. Only 45.6% of participants were familiar with the term VBAC. The primary reason for choosing CS over VBAC was medical necessity, as reported by 36.3% of participants. The most common reasons for rejecting VBAC were fear for their child's safety and the fact that a CS was recommended, both reported by 35.1%. The lowest reported reason was external interference from family or spouses, at 10.5%. **Conclusion:** Although the majority of our sample consisted of highly educated women, most exhibited poor knowledge regarding VBAC. Therefore, raising awareness about VBAC, especially through healthcare professionals and their clinics, is essential.

Keywords: Cesarean section (CS), elective repeat cesarean delivery (ERCD), healthcare decision-making, knowledge assessment, pregnancy choices, Saudi Arabia, vaginal birth after cesarean (VBAC), women's health

Introduction

Cesarean section (CS) is a common surgical procedure for delivering a newborn and placenta through abdominal and uterine incisions.^[1] It can prevent perinatal and maternal morbidity and mortality when medically indicated, but there is no evidence of

maternal or perinatal benefits when not indicated. In fact, it can carry a risk of future pregnancies.^[2] In Saudi Arabia, the CS rate increased from 10.6% to 25% between 1997 and 2014, reflecting a nearly 140% increase.^[3,4] A more recent study conducted in the city of Jeddah specifically found that the CS rate was 27.5% in 2018.^[5]

Women with one previous CS have two delivery choices: vaginal birth after cesarean (VBAC) or elective repeat cesarean delivery (ERCD). VBAC refers to vaginal delivery in women who underwent a cesarean delivery in a prior pregnancy.^[6] Women who desire VBAC undergo a trial of labor after cesarean

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section (TOLAC).^[6] First recommended in 1980 by the National Institutes of Health (NIH) Consensus Development Panel in the United States.^[7] VBAC rates gradually increased initially, but concerns about rare poor outcomes led to a decline.^[8,9] These poor outcomes include uterine rupture,^[10] perinatal deaths,^[11] and major maternal morbidity.^[12] A 2010 systemic review of 203 studies found that while maternal mortality risk was higher for ERCD, uterine rupture and perinatal mortality risks were higher for TOLAC, though adverse outcomes were rare for both.^[13] Since 2010, the NIH Consensus Panel concluded that VBAC is a reasonable and safe option for delivery.^[14] Two large multicenter studies conducted in the United States have shown that the VBAC success rate is 73.4% and 75.5%.^[15,16]

Research suggests that the rise in CS rates is primarily related to subjective rather than objective indications.^[17] Non-clinic reasons include the mistaken belief that CS prevents complications during delivery, a preference for expedited delivery, and a desire for pain-free labor.^[18] A cross-sectional study in Saudi Arabia found that many women requested CS to avoid potential complications from vaginal birth, while nearly half cited a fear of labor pain.^[19]

According to the American College of Obstetricians and Gynecologists (ACOG), most women with one prior CS and a low-transverse incision should be offered a trial of labor after counseling.^[20] Promoting TOLAC is advisable, as vaginal delivery is associated with more maternal and neonatal benefits, including quicker recovery, which is preferred by many women.^[21,22] TOLAC is also linked to fewer risks in subsequent pregnancies compared to repeated CS.^[23,24] Women who choose ERCD are more likely to choose the same mode of delivery for future pregnancies, exposing themselves to known risks associated with repeated CS, including an elevated risk of maternal morbidity due to abnormal placental adherence and cesarean hysterectomy. This risk increases with each subsequent CS.^[25] Therefore, studies exploring women's awareness regarding their delivery choices are crucial in order to enhance decision-making and lead to safer delivery choices for both the mother and newborn. This will also help decrease the morbidity associated with repeat CS that has to be dealt with by practitioners.

At present, there is a limited body of research that has attempted to explore the awareness and knowledge of VBAC among women, particularly in Saudi Arabia. This study aims to assess the awareness and knowledge of spontaneous labor or induced labor leading to vaginal delivery after a previous CS among women in the Western Region of Saudi Arabia.

Materials and Methods

Study design and setting

A cross-sectional study was conducted between December 2021 and January 2022 among females in the Western Region of Saudi Arabia. All females aged 18 and above were eligible to complete the questionnaire.

Sample size and sampling procedure

The sample size required was calculated as 470 for a 97% confidence level with a 5% margin of error using the Raosoft sample size calculator.^[26] The final sample collected was 905. The study used convenience and snowball sampling techniques. Initially, the questionnaire was distributed to a reachable sample of females. Subsequently, participants were encouraged to share the questionnaire with others.

Data collection instrument

Google Forms was used to create an anonymous questionnaire. It was initially designed by the authors and validated by five consultants and specialists who are well-rounded professionals in the field. Adjustments were made based on their feedback. A pilot study was conducted involving 40 mothers using the questionnaire, and their results and comments were taken into consideration before finalizing it.

The survey included multiple-choice and “Yes” or “No” questions. The final questionnaire was divided into six parts.

- 1- Demographic data: Age, education level, job status, number of children, and history of previous CS.
- 2- Opinion about VBAC: Whether their doctors suggested VBAC, experience with VBAC, preference of VBAC, and their perception of the community's knowledge about VBAC.
- 3- Reasons for undergoing CS, if applicable.
- 4- Knowledge of VBAC: True and False questions to assess participants' knowledge to evaluate their familiarity with the topic.
- 5- Sources of information on VBAC.
- 6- Factors influencing rejection of VBAC (if it was ever offered to them).

For questions that may not apply to all female participants (such as the offer of VBAC, reasons for rejecting it, and others), the option “This question does not apply to me” was included to facilitate more accurate data analysis.

Analysis

Data entry was conducted using Microsoft Excel 2016, and statistical analysis was performed using IBM SPSS Statistics version 21 (IBM Corp., Armonk, NY, USA)]. Qualitative data was presented as frequencies and percentages. Relationship between variables was examined using Chi-squared tests, Independent Samples T-Tests, and One-Way Analysis of Variance (ANOVA). A *P*-value of <0.05 was considered statistically significant.

Research ethics

This study was performed in accordance with the Declaration of Helsinki. Ethical approval was obtained from the Regional Institutional Review Board (IRB) of the institution (Ref: A01306). This study was performed in accordance with the relevant guidelines and regulations. Informed consent was obtained from all participants involved in the study. All participants were

informed that their confidentiality will be guaranteed and that all information will be used for research purposes.

Results

Demographic and characteristics

The sample consists of 901 women from the community, and the results revealed the following demographic characteristics. The average age was 36.85, with a standard deviation of ± 9 . A majority (43.2%) of participants fell into the age group of 31–40 years. In terms of education, the largest group (73.8%) of participants had a university education or higher. More than half (58.7%) were unemployed. Among those who were employed, 10.7% worked in healthcare but not in the OB/GYN specialty, while only 3.1% had jobs related to the OB/GYN specialty [Table 1].

Out of the 422 women who underwent a Cesarean Section (CS), only 37.2% received advice from their doctors to consider VBAC, while 62.8% did not. Regarding preferences, 45.1% of participants favored VBAC, 40.6% were neutral, and 14.3% did not favor VBAC. The majority (72.7%) strongly agreed that the community needs to be better informed about the importance of VBAC [Table 1].

Knowledge about VBAC

It was found that 45.6% of participants were familiar with what VBAC is, while the majority, at 54.4%, did not know of it. Additionally, 70.5% of participants recognized that VBAC involves fewer complications than undergoing a CS [Table 2]. In response to the question, ‘After undergoing 2 CS, can you still have a normal vaginal delivery?’ only 19.9% of participants selected the correct answer (‘NO’), while 80.1% did not. The knowledge level about CS and VBAC was assessed based on scores obtained from a set of 11 questions included in Figure 1 and Table 2. A score of 7 or higher indicated good knowledge, while a score of 6 or lower indicated poor knowledge. The results revealed that only 32.5% of participants exhibited good knowledge about VBAC, whereas 67.5% of the participants had poor knowledge about VBAC [Table 2].

Relationship between demographic characteristics and knowledge level

When examining the association and relationship between participants’ demographic characteristics and their knowledge levels, the results of the Pearson Chi-Square test revealed statistically significant associations with several factors. These factors include Education Level (Chi-square = 14.15, p -value = 0.002), Current Employment Status (Chi-square = 14.13, p -value = 0.000), Employment in Healthcare (Chi-square = 43.70, p -value = 0.000), Number of Previous CS Procedures (Chi-square = 29.49, p -value = 0.000), Time Since Last CS (Chi-square = 26.28, p -value = 0.000), Doctor’s Advice on VBAC (Chi-square = 43.06, p -value = 0.000), Undergoing VBAC (Chi-square = 18.04, p -value = 0.000),

and Outcome of VBAC Delivery (Chi-square = 19.69, p -value = 0.000) [Table 3].

The results of independent samples T-Test and One-Way ANOVA were conducted to examine differences in knowledge scores among participants based on their demographics. The analysis revealed a statistically significant difference in knowledge scores among participants who received advice from their doctor to undergo VBAC ($F = 36.20$, p -value = 0.000). This difference favored participants who were advised by their doctor to opt for VBAC [Table 3].

Reasons for cesarean

The most frequently cited reason for choosing Cesarean over VBAC from the participants’ perspective was medical reasons, as reported by 36.3% of the participants. In terms of the association and relationship between the reasons for Cesarean section among participants who underwent CS ($n = 423$) and their knowledge level, the results of the Pearson Chi-Square test indicated a statistically significant association with the reason ‘Because it was personally requested by the mothers’ (Chi-square = 6.76, p -value = 0.009) [Table 4].

Source of information about VBAC

The most prevalent source of information about VBAC in our study was ‘Family or Friends,’ accounting for 65.6%. Figure 2 shows that a slightly higher regain of better information was following books and magazines followed by physicians. Concerning the association and relationship between the source of information about VBAC and knowledge level, the results of the Pearson Chi-Square test indicated that each of the sources, including ‘Your Physician,’ ‘Books or Magazines,’ ‘Social Media,’ ‘Family or Friends,’ and ‘TV,’ did not exhibit a significant association with knowledge level, as all corresponding P -values were (>0.05) [Table 5].

Reasons for rejecting VBAC for participants who were offered the chance to undergo one ($n = 57$)

Out of the participants, only 57 (6.3%) underwent VBAC and were eligible to answer this question. The results revealed that the most frequently cited reasons for rejecting VBAC were ‘Fear for your child’ and ‘That a CS was offered to you,’ both reported by 35.1%. In contrast, the least common reason was ‘An outside interference from family or your Husband,’ with only 10.5% [Table 6].

Discussion

VBAC knowledge

The results underscore that only one-third of the population possessed a good understanding of VBAC, while the majority had poor knowledge. These findings cannot be fully compared to other countries due to limited literature reporting such knowledge levels. Within our population, these findings were unrelated to age and the number of children but correlated with educational

Table 1: Demographics, general history, and difference between participants in knowledge score mean according to demographics

Variable	Categories	n (%)	Mean	SD	F/T Test	P
Age	20 or lower	16 (1.8%)	3.38	2.55	1.73	0.124
	21–30	227 (25.2%)	4.93	2.82		
	31–40	389 (43.2%)	5.02	2.93		
	41–50	205 (22.8%)	4.73	2.91		
	51–60	56 (6.2%)	5.11	2.69		
	61 or more	8 (.9%)	6.50	1.93		
Education Level	Intermediate School	36 (4.0%)	3.58	2.87	6.28	0.000**
	High School	139 (15.4%)	4.26	2.71		
	Diploma	61 (6.8%)	5.07	3.03		
	University level or Higher	665 (73.8%)	5.12	2.86		
Are you currently on a job?	No	529 (58.7%)	4.64	2.82	-3.55	0.000**
	Yes	372 (41.3%)	5.33	2.91		
Do you have a job in healthcare?	No I don't work in Health care	777 (86.2%)	4.67	2.78	30.15	0.000**
	Yes but my work is not related to OB/Gyn.	96 (10.7%)	6.04	2.88		
	Yes and my work is in OB/Gyn. or related to it	28 (3.1%)	8.18	2.54		
Number of children	0	50 (5.5%)	3.82	2.98	4.58	0.003**
	1–2	338 (37.5%)	5.24	2.92		
	3–5	420 (46.6%)	4.89	2.84		
	6 or more	93 (10.3%)	4.51	2.61		
How many CS did you have?	0	478 (53.1%)	4.30	2.86	14.34	0.000**
	1	205 (22.8%)	5.74	2.74		
	2	101 (11.2%)	5.97	2.63		
	3	72 (8.0%)	5.38	2.85		
	4 or more	45 (5.0%)	4.73	2.56		
When was your last CS?	This Q is not Applicable for me	478 (53.1%)	4.30	2.86	13.55	0.000**
	1 year	89 (9.9%)	5.29	2.94		
	2 years	55 (6.1%)	6.22	2.92		
	3 years	38 (4.2%)	5.84	2.86		
	more than 3 years	241 (26.7%)	5.58	2.57		
Did your doctor advise you to undergo VBAC?	This Q is not Applicable for me	479 (53.2%)	4.30	2.86	36.20	0.000**
	No	265 (29.4%)	5.15	2.73		
	Yes	157 (17.4%)	6.43	2.54		
Did you undergo VBAC?	I did not get Pregnancy yet	50 (5.5%)	3.82	2.98	20.01	0.000**
	No	748 (83.0%)	4.78	2.85		
	Yes	103 (11.4%)	6.46	2.42		
How did your VBAC delivery go?	This Q is not Applicable for me	802 (89.0%)	4.73	2.87	16.80	0.000**
	With a Medical team help	50 (5.5%)	6.52	2.42		
	Spontaneous	49 (5.4%)	6.43	2.48		
Do you favor VBAC?	No	129 (14.3%)	4.75	2.88	0.460	0.631
	Neutral	366 (40.6%)	4.88	2.93		
	Yes	406 (45.1%)	5.01	2.83		
Do you think that the community knows about VBAC?	No	219 (24.3%)	5.08	2.77	0.559	0.642
	Maybe	342 (38.0%)	4.79	2.96		
	Agree	235 (26.1%)	5.00	2.80		
	Strongly Agree	105 (11.7%)	4.83	2.99		
Do you think that the community needs to know more about VBAC importance?	Maybe	88 (9.8%)	4.70	2.80	1.02	0.361
	Agree	158 (17.5%)	4.70	2.84		
	Strongly Agree	655 (72.7%)	5.01	2.89		
	awareness campaigns	235 (26.1%)	4.92	3.08		
What is the best way to spread awareness about VBAC in your opinion?	Prints and booklets	22 (2.4%)	5.00	3.30	0.008	0.992
	Via social media	644 (71.5%)	4.92	2.78		
	Total	901 (100.0%)				

The mean is the mean score for knowledge level out of 11. Intermediate school: Are schools for students that correspond to the Grades 7–9?. **significance

level, previous CS experience, and receiving information about VBAC from a physician.

Women who had undergone CS exhibited significantly higher knowledge levels regarding VBAC likely because after CS doctors

discuss future birth options with their patients, thereby increasing their knowledge. Our study also revealed that patients who did not receive information about VBAC from their physicians tended to have poorer knowledge. This aligns with other studies showing women with previous CS often consider VBAC for a quicker recovery.^[7,27,28] However, our questionnaire did not specifically address the aspect of desiring VBAC for a faster healing process.

In terms of knowledge level and the likelihood of undergoing VBAC, there was an almost equal proportion of women who underwent VBAC in both the poor (49.5%) and the good (50.5%) knowledge categories. Previous studies indicate that women with a higher level of knowledge about VBAC were more inclined to choose it over an elective CS.^[29] A study also suggests that implementing strategies to enhance women’s knowledge levels regarding VBAC is a significant approach to increasing its rate.^[30]

Table 2: Information and knowledge about CS and VBAC

Knowledge about CS and VBAC Categories		n	%
Do you know what VBAC is?	No	490	54.4%
	Yes	411	45.6%
Do you know the risks and benefits of VBAC?	No	563	62.5%
	Yes	338	37.5%
Do you know that VBAC has fewer complications than undergoing a CS?	I don't know	213	23.6%
	No	53	5.9%
Do you know the complications of undergoing frequent CS operations?	Yes	635	70.5%
	I don't know	202	22.4%
Knowledge Level	No	192	21.3%
	Yes	507	56.3%
Total	Poor Knowledge Level	608	67.5%
	Good Knowledge Level	293	32.5%
		901	100.0%

Reasons for cesarean section (CS)

Most women in the study underwent CS for medical reasons, often following their doctor’s recommendation. This aligns with findings from previous research, where CS was primarily chosen based on medical necessity rather than convenience.^[31,32] However, it is important to note that, despite the majority of cases being medically motivated, a small percentage of women still opt for CS due to their fear of labor or for the convenience of selecting their delivery date.^[32-34] Nowadays, maternal rights have become more flexible, allowing women to choose CS regardless of medical necessity.

Culturally, some studies suggest that, in certain countries, societal and cultural beliefs encourage women to choose CS for their first delivery, as it is believed that vaginal childbirth might not be suitable.^[35-37] In contrast, in Saudi Arabian and Middle Eastern cultures, women tend to be more willing to have children and build larger families, often avoiding their first CS unless medically necessary to minimize future risks. The predominance of medical reasons for choosing CS in our study is encouraging, suggesting that medical opinions are respected and CS rates remain stable. This is a positive outcome for maternal healthcare.

Reasons for rejecting VBAC

Most patients were not offered VBAC by their physicians, contrasting with a 2021 study in Saudi Arabia where almost all physicians offered TOLAC.^[38] However, this discrepancy can be attributed to differing beliefs among physicians, which may explain why some patients were not offered a VBAC. This discrepancy may be due to differing beliefs among physicians. Our research primarily examined patient perspectives, while the

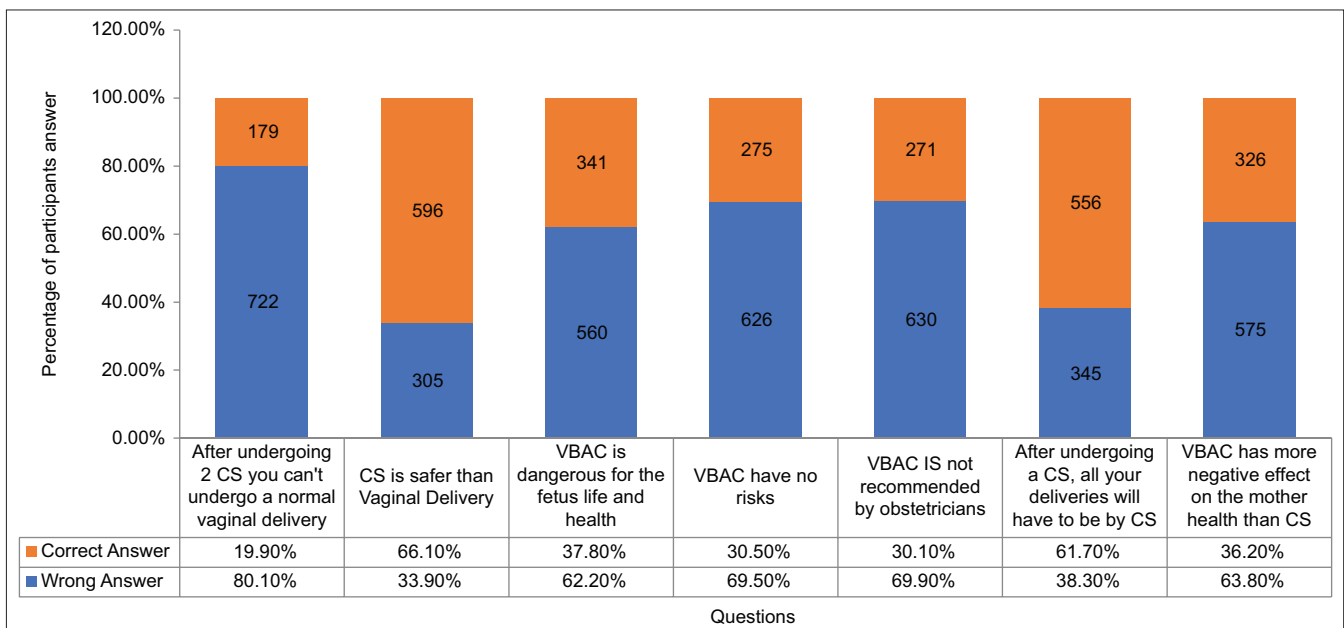


Figure 1: Knowledge questions on VBAC

Table 3: Association between demographics and knowledge level

Variable	Categories	Poor knowledge	Good knowledge	Chi-Square	P
Age	20 or lower	14 (87.5%)	2 (12.5%)	6.81	0.235
	21–30	150 (66.1%)	77 (33.9%)		
	31–40	257 (66.1%)	132 (33.9%)		
	41–50	148 (72.2%)	57 (27.8%)		
	51–60	34 (60.7%)	22 (39.3%)		
	61 or more	5 (62.5%)	3 (37.5%)		
Education Level	Intermediate School	29 (80.6%)	7 (19.4%)	14.15	0.002**
	High School	109 (78.4%)	30 (21.6%)		
	Diploma	35 (57.4%)	26 (42.6%)		
	University level or Higher	435 (65.4%)	230 (34.6%)		
Are you currently on a Job	No	383 (72.4%)	146 (27.6%)	14.13	0.000**
	Yes	225 (60.5%)	147 (39.5%)		
Do you Have a job in Healthcare	No I don't work in Health care	553 (71.2%)	224 (28.8%)	43.70	0.000**
	Yes but my work is not related to OB/Gyn.	49 (51.0%)	47 (49.0%)		
	Yes and my work is in OB/Gyn. or related to it	6 (21.4%)	22 (78.6%)		
Number of Children	0	38 (76.0%)	14 (24.0%)	6.46	0.091
	1-2	212 (62.7%)	126 (37.3%)		
	3-5	292 (69.5%)	128 (30.5%)		
	6 or more	66 (71.0%)	27 (29.0%)		
How many CS did you have	0	357 (74.7%)	121 (25.3%)	29.49	0.000**
	1	116 (56.6%)	89 (43.4%)		
	2	56 (55.4%)	45 (44.6%)		
	3	47 (65.3%)	25 (34.7%)		
	4 or more	32 (71.1%)	13 (28.9%)		
When was your last CS	This Q is not Applicable for me	357 (74.7%)	121 (25.3%)	26.28	0.000**
	1 year	54 (60.7%)	35 (39.3%)		
	2 years	28 (50.9%)	27 (49.1%)		
	3 years	22 (57.9%)	16 (42.1%)		
	more than 3 years	147 (61.0%)	94 (39.0%)		
Did your doctor advise you to undergo VBAC	This Q is not Applicable for me	358 (74.7%)	121 (25.3%)	43.06	0.000**
	No	177 (66.8%)	88 (33.2%)		
	Yes	73 (46.5%)	84 (53.5%)		
Did you undergo VBAC	I did not get Pregnancy yet	38 (76.0%)	12 (24.0%)	18.04	0.000**
	No	519 (69.4%)	229 (30.6%)		
	Yes	51 (49.5%)	52 (50.5%)		
How did your VBAC delivery go	This Q is not Applicable for me	560 (69.8%)	242 (30.2%)	19.69	0.000**
	With a Medical team help	27 (54.0%)	23 (46.0%)		
	Spontaneous	21 (42.9%)	28 (57.1%)		
Do you Favor VBAC	No	93 (72.1%)	36 (27.9%)	1.46	0.482
	Neutral	244 (66.7%)	122 (33.3%)		
	Yes	271 (66.7%)	135 (33.3%)		
Do you think that the community knows about VBAC	No	146 (66.7%)	73 (33.3%)	1.36	0.714
	Maybe	238 (69.6%)	104 (30.4%)		
	Agree	153 (65.1%)	82 (34.9%)		
	Strongly Agree	71 (67.6%)	34 (32.4%)		
Do you think that the community needs to know more about VBAC Importance	Maybe	60 (68.2%)	28 (31.8%)	1.10	0.576
	Agree	112 (70.9%)	46 (29.1%)		
	Strongly Agree	436 (66.6%)	219 (33.4%)		
what is the best way to spread awareness about VBAC in your opinion	Awareness campaigns	154 (65.5%)	81 (34.5%)	0.763	0.683
	Prints and booklets	14 (63.6%)	8 (36.4%)		
	Via social media	440 (68.3%)	204 (31.7%)		
Total		608 (67.5%)	293 (32.5%)		

Intermediate school: Are Schools for students that corresponds to the Grades 7-9. **Significance using Pearson Chi-Square test

cited study focused on physicians' viewpoints. This disparity highlights variations in clinical practice regarding VBAC and the need for further investigation.

Among women offered VBAC, the most common reason for rejecting it was fear for the child's well-being. This aligns with other studies where concerns about the child's health are primary

Table 4: Association between Reasons of Cesarean and knowledge level for participants who underwent CS only (n=423)

Reasons for picking Cesarean over VBAC	Categories	Poor knowledge	Good knowledge	Chi-Square	P
Was Fetal Bradycardia	No	152 (58.9%)	106 (41.1%)	0.049	0.825
	Yes	99 (60.0%)	66 (40.0%)		
Because you personally asked for it	No	201 (56.6%)	154 (43.4%)	6.76	0.009**
	Yes	50 (73.5%)	18 (26.5%)		
The doctor decides your CS	No	105 (58.0%)	76 (42.0%)	0.231	0.631
	Yes	146 (60.3%)	96 (39.7%)		
Because of medical reasons	No	55 (57.3%)	41 (42.7%)	0.216	0.642
	Yes	196 (59.9%)	131 (40.1%)		
Due to high glucose level	No	228 (58.3%)	163 (41.7%)	2.25	0.133
	Yes	23 (71.9%)	9 (28.1%)		
Due to high Blood Pressure readings	No	217 (58.0%)	157 (42.0%)	2.32	0.128
	Yes	34 (69.4%)	15 (30.6%)		
Due to PROM	No	175 (58.3%)	125 (41.7%)	0.432	0.511
	Yes	76 (61.8%)	47 (38.2%)		
Due to Placenta Previa	No	223 (58.2%)	160 (41.8%)	2.08	0.149
	Yes	28 (70.0%)	12 (30.0%)		
Due to Heavy Bleeding	No	224 (57.7%)	164 (42.3%)	5.01	0.025**
	Yes	27 (77.1%)	8 (22.9%)		
Due to lack of progress in natural delivery	No	182 (60.7%)	118 (39.3%)	0.755	0.385
	Yes	69 (56.1%)	54 (43.9%)		
Due to Prolonged labour	No	168 (61.3%)	106 (38.7%)	1.26	0.262
	Yes	83 (55.7%)	66 (44.3%)		
Total		251 (59.3%)	172 (40.7%)		

**Significance using Pearson Chi-Square test.

Table 5: Association between sources of information about VBAC and knowledge level

Source of information about VBAC	Categories	n (%)	Poor knowledge	Good knowledge	Chi-Square	P
Your Physician	No	511 (56.7%)	345 (67.5%)	166 (32.5%)	0.001	0.980
	Yes	390 (43.3%)	263 (67.4%)	127 (32.6%)		
Books or Magazines	No	370 (41.1%)	254 (68.6%)	116 (31.4%)	0.390	0.532
	Yes	531 (58.9%)	354 (66.7%)	177 (33.3%)		
Social Media	No	534 (59.3%)	359 (67.2%)	175 (32.8%)	0.038	0.845
	Yes	367 (40.7%)	249 (67.8%)	118 (32.2%)		
Family or Friends	No	310 (34.4%)	203 (65.5%)	107 (34.5%)	0.859	0.354
	Yes	591 (65.6%)	405 (68.5%)	186 (31.5%)		
TV	No	514 (57.0%)	345 (67.1%)	169 (32.9%)	0.071	0.790
	Yes	387 (43.0%)	263 (68.0%)	124 (32.0%)		
Total		901 (100.0%)	608 (67.5%)	293 (32.5%)		

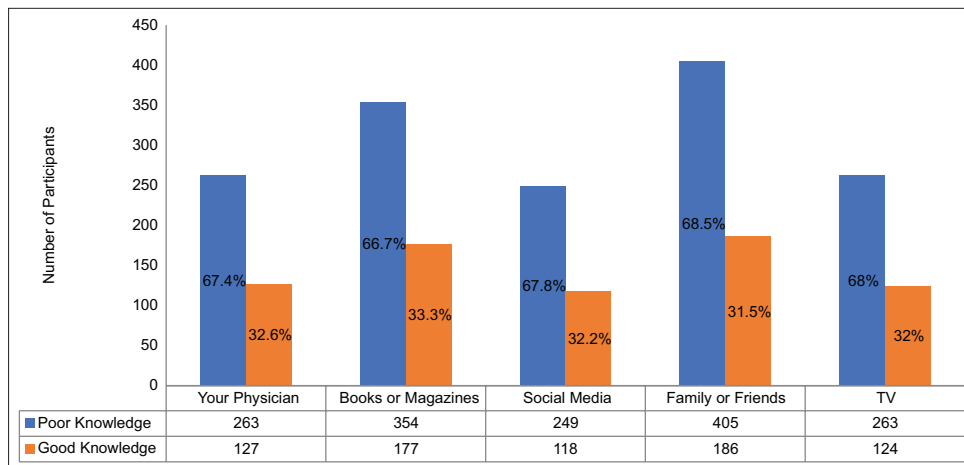


Figure 2: Association between sources of information about VBAC and knowledge level

Table 6: Association between reasons for rejecting VBAC and knowledge level for applicable participants only (n=57)

Reasons for rejecting VBAC	Categories	n (%)	Poor knowledge	Good knowledge	Chi-Square	P
Your own personal decision	No	45 (78.9%)	31 (68.9%)	14 (31.1%)	4.95	0.026**
	Yes	12 (21.1%)	12 (100.0%)	0 (0.0%)		
Fear for your child	No	37 (64.9%)	28 (75.7%)	9 (24.3%)	0.003	0.955
	Yes	20 (35.1%)	15 (75.0%)	5 (25.0%)		
That no one has explained to you	No	43 (75.4%)	32 (74.4%)	11 (25.6%)	0.098	0.754
	Yes	14 (24.6%)	11 (78.6%)	3 (21.4%)		
An outside interference from family or your Husband	No	51 (89.5%)	38 (74.5%)	13 (25.5%)	0.226	0.635
	Yes	6 (10.5%)	5 (83.3%)	1 (16.7%)		
That a CS was offered to you	No	37 (64.9%)	32 (86.5%)	5 (13.5%)	6.95	0.008**
	Yes	20 (35.1%)	11 (55.0%)	9 (45.0%)		
Total		57 (100.0%)	43 (75.4%)	14 (24.6%)		

**Significance using Pearson Chi-Square test.

when choosing the delivery mode after a prior CS.^[39,40] Previous research indicates higher neonatal morbidity and mortality rates in VBAC cases compared to elective CS, which may contribute to these concerns.^[41-43] In a 2018 study conducted in Taiwan, maternal well-being was cited as a concern among many women, including the fear of uterine rupture, leading them to perceive CS as a safer option.^[39] A similar study in China also underscored fear as a major deterrent for women considering VBAC.^[44]

Nevertheless, it is crucial to emphasize that, despite concerns about potential adverse maternal and neonatal outcomes, the majority of VBAC attempts are successfully completed with both the mother and child in good health.^[35,45]

Interestingly, only 10.5% of eligible women indicated that their family or husbands influenced their VBAC decision, diverging from prior research where nearly all women reported familial influence.^[46] This discrepancy may be due to the focus of the previous study on the influence of existing children in decision-making, where mothers felt a strong sense of responsibility towards their current children.^[46]

Limitations

We acknowledge several limitations in our study. Potential biases from the study's design, and the use of self-reporting questions introduce inherent biases. The structure of certain questions may have influenced the responses provided. Additionally, the data related to VBAC was limited because the majority of participants did not undergo VBAC. Most of our data were obtained from a governmental hospital, and we were unable to ascertain whether the participating women delivered at a private or governmental healthcare facility. Consequently, we could not adequately compare practices between these two sectors or consider potential differences in the socio-economic statuses.

Recommendations

We recommend a larger and more diverse study in the future. Subsequent research should encompass perceptions from various regions across the country and include a greater representation of women who have undergone TOLAC and/or VBAC. Furthermore, we suggest the refinement of

the assessment tool used to gauge participants' knowledge. Exploring the cosmetic aspects of VBAC may yield intriguing results. Additionally, many participants expressed a preference for public awareness campaigns, favoring social media for disseminating information about VBAC. Both methods can effectively reach different demographics, and a comprehensive approach, including awareness campaigns in public areas and on social media platforms, can be implemented. Similarly, healthcare professionals should take proactive measures by promoting this topic within clinical settings and providing guidance to eligible mothers.

Conclusion

The objective of this study was to evaluate the knowledge and awareness of VBAC among women residing in the Western Region of Saudi Arabia. Our findings revealed that despite a predominantly well-educated sample, most women exhibited limited knowledge concerning VBAC, particularly those who had not previously undergone a Cesarean section, as compared to those with prior Cesarean experiences. Consequently, we recommend enhancing awareness and knowledge about VBAC through various means, such as public awareness campaigns and social media initiatives. Additionally, healthcare professionals should actively promote VBAC as a viable option for mothers during clinical consultations.

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Conflicts of interest

There are no conflicts of interest.

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