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PERCEPTION OF LEBANESE WOMEN ON PREFERRED MODE OFDELIVERY AND ITS ASSOCIATED COMPLICATIONS

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Abstract

Cesarean section, since ancient times, has been known to be an alternative mode to normal vaginal delivery. It is clinically indicated in certain situations. However, nowadays, Cesarean section rates are increased worldwide and in Lebanon, and instead of being an alternative, it has become the primary choice for certain women and physicians, who decide that their patients should go for that option. The purpose of our study was to investigate the perception of Lebanese women towards different modes of delivery in Lebanon. A cross- sectional study was conducted, where participants, aged 18 to 55, were selected in different regions across Lebanon, and were asked to fill a questionnaire with regards to their perception. Data were collected about preferred modes of delivery, women's awareness towards vaginal and caesarean deliveries and their associated complications. 388 women agreed to participate. The majority were less than 25 years old (around 40%). The majority preferred vaginal delivery (79.5%) over Cesarean section. No significant association was found between age and preferred modes of delivery. The main reasons for preferring vaginal delivery were shorter hospital stay and faster postpartum recovery. 96.3% who underwent C-section stated that it was emergent rather than planned. Of those who preferred Caesarean delivery, main reasons were the fear of pain and believing that it is a safe procedure. As for perception on complications, 50% believed that neither vaginal delivery nor cesarean section increased maternal death. Short term fetal respiratory distress was believed to be less after vaginal delivery than after cesarean section.

Keywords

Birth, Vaginal Delivery, Complications, Pain, Cesarean section

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ABSTRACT: *Cesarean section, since ancient times, has been known to be an alternative mode to normal vaginal delivery. It is clinically indicated in certain situations. However, nowadays, Cesarean section rates are increased worldwide and in Lebanon, and instead of being an alternative, it has become the primary choice for certain women and physicians, who decide that their patients should go for that option. The purpose of our study was to investigate the perception of Lebanese women towards different modes of delivery in Lebanon. A cross- sectional study was conducted, where participants, aged 18 to 55, were selected in different regions across Lebanon, and were asked to fill a questionnaire with regards to their perception. Data were collected about preferred modes of delivery, women's awareness towards vaginal and caesarean deliveries and their associated complications. 388 women agreed to participate. The majority were less than 25 years old (around 40%). The majority preferred vaginal delivery (79.5%) over Cesarean section. No significant association was found between age and preferred modes of delivery. The main reasons for preferring vaginal delivery were shorter hospital stay and faster postpartum recovery. 96.3% who underwent C-section stated that it was emergent rather than planned. Of those who preferred Caesarean delivery, main reasons were the fear of pain and believing that it is a safe procedure. As for perception on complications, 50% believed that neither vaginal delivery nor cesarean section increased maternal death. Short term fetal respiratory distress was believed to be less after vaginal delivery than after cesarean section.*

KEYWORDS: *Birth, Vaginal Delivery, Complications, Pain, Cesarean section*

1. INTRODUCTION

Childbirth is regarded as an important life event. However, pregnancy time is a period filled with exhaustion, stress, pain and fear of the delivery itself. There are two common modes of delivery available, and they are vaginal delivery (VD), also considered as the natural method of birth, and caesarean section (C-section) delivery. Initially, vaginal delivery was considered the inarguable best mode of birth, and C-section was only indicated in certain medical emergencies, and when normal deliveries may be complicated, and hence is suggested in order to prevent either maternal or fetal morbidities and mortality (1). World Health Organization (WHO) recommends that C-section should not be more than 10–15% of all deliveries (2). Mortality and morbidity for C-section deliveries are higher than normal vaginal deliveries, and also the expenses are up to 3 times more for C-sections (3). However, what is commonly noted nowadays, is that many C-sections are being performed upon maternal or physician request, even without any indicated medical reason, and hence causing an increasing rate of "elective C-section" deliveries worldwide, where in some countries, it has actually become a part of their culture (4 -6). A study on caesarean section delivery was conducted, in February 2016, on a global, regional and national scale, and the study stressed that between 1990 and 2014, C-section demand increased by a global average of 12.4% with an average of 4.4% increase annually. Latin America and the Caribbean regions proved to have the highest rates (40.5%), while Africa scored the lowest percentage (7.3%) (7). Moreover, a study was conducted trying to estimate population- and hospital-based caesarean section rates in 18 Arab countries, and the results showed that Arab countries had exhibited great disparities in their population-based caesarean rates, where four Arab countries had a rate below 5%, while only three countries had rates above 15%. The remaining 11 countries had caesarean rates ranging between 5–15%. In this study, high levels of caesarean section were observed in countries like Egypt, Syria and Lebanon (8). Based on the

above evidence, noting that worldwide the number of women preferring C-section has been increasing, and that there are many different factors that influence a woman's choice of mode of birth, including demographic factors and individual's expectation of childbirth, a study was conducted in Lebanon in order to highlight the perception of women on this subject taking in consideration the different regions and cultures present. In addition, perception of women and their thoughts about modes of delivery actually vary between countries and cultures. Thus, it is of importance to conduct such a study in Lebanon.

2. METHODS

2.1 Subjects and Methods

A descriptive cross sectional study was carried out on Lebanese women trying to assess their perception, Knowledge, beliefs, and practices regarding available modes of delivery; the traditional vaginal and the cesarean section delivery. The calculated estimated sample size of subjects to be collected was 384 patients based on the women's population number in Lebanon, 95% bonfidence level and 99% confidence interval, but in the end a total of 388 Lebanese women were asked to participate and this was done through convenient sampling and after a signed written informed consent, stating the procedure, risk/discomforts, benefits, confidentiality and the right to withdraw, was obtained. The study included women between the ages of 18 and 55 years old but excluded women who aren't able to make decisions which may be due to psychological or other mental disorders, Lebanese women who are immigrants or outside the Lebanese borders, and those not willing to participate.

Data collection was done across Lebanon streets in North, South, Beirut, Mount Lebanon, and Bekaa throughout the four months period from September up until December 2016. The questionnaire used included three main parts, including socio-demographic information on age, educational level, employment status, marital status, district of residence and salary, information on whether the participants has ever given birth, and the modes of delivery used and the sources of knowledge on the chosen mode of delivery, and the last part of the questionnaire obtained information on which mode of delivery do participants prefer and the main reasons for preferring vaginal or C-section over the other method. The questionnaire was developed by survey experts and was carried on small number of participants prior to study conduction just to make sure that the questions are easily understood and are accepted by our population and culture. Ethical clearance for the study was obtained from the Ethics Review Committee of the Faculty of Medicine of Beirut Arab University.

2.2 Statistical Analyses

Processing of data included data entry into Statistical Package for Social Sciences (SPSS) program version 23 and Excel computer software. Missing values, which accounted less than 5% of answers, were not replaced, and variables were analyzed as available. Descriptive statistics, mainly proportions were used for discrete variables. Descriptive analysis was carried out by calculating the mean and standard deviation for continuous variables.

Univariate analysis was performed to obtain measures of frequency of variable. These measures included socio- demographic data of respondents which are mean age in years, mean parity of 1.6, marital status number in percentage of total, educational level number in percentage of total, employment status, place of residence, living with partner, modes of delivery (vaginal versus cesarean percentages), smokers during delivery in percentage, alcohol drinkers during delivery in percentage, and medical diseases during pregnancy (HTN, gestational diabetes, etc…). The commonest sources of knowledge and information about modes of delivery were also analyzed, in addition to reasons for preferring cesarean delivery among those who had C-section. Our analyses also included the relation between level of education and preferred modes of delivery. Relation between source of information, and previously applied and preferred modes of delivery was also tackled. Continuous variables were analyzed using a t-test. A p value of <0.05 was considered as significant. Demographic data and other characteristics of the participants were analyzed using descriptive statistics. Associations between categorical variables were evaluated using a Pearson's chi-squared test and a chi-square test with a continuity correction factor or a Fisher exact test. Spearman's correlation coefficient was used to assess the strength of linear relationship between knowledge score and other quantitative and qualitative variables.

3. RESULTS

A total of 420 Lebanese women were approached to participate in this study. Of these, 392 accepted to participate. Among those, 4 were excluded due to missing data or refusal to continue. Thus, 388 participated in the end. 39% aged less than 25 years, and the majority of women who already had delivered, was above the

age of 25 years, and were married and graduated from University. The characteristics of participants' demographic characteristics are shown in Table 1

Table 1: Demographic Characteristics of Participants

Socio-demographic Data	Given Birth	Never Given Birth	Total
Age (Years)			
< 25	16 (8.4%)	134 (68.4%)	150 (38.9%)
26-35	80 (42.1%)	45 (22.9%)	125 (32.3%)
> 36	94 (49.5%)	17 (8.7%)	111 (28.8%)
Residency			
North	40 (21.3%)	24 (12.3%)	64 (16.7%)
South	48 (25.5%)	65 (33.3%)	113 (29.5%)
Beirut	39 (20.7%)	51 (26.2%)	90 (23.5%)
Mount Lebanon	24 (12.8%)	32 (16.4%)	56 (14.6%)
Bekaa	37 (19.7%)	23 (11.8%)	60 (15.7%)
Missing Information	2 (1%)	3 (1.5%)	5 (1.2%)
Educational Level			
Never been to school	4 (2.1%)	1 (0.5%)	5(1.3%)
Primary school	20 (10.6%)	1 (0.5%)	21(5.5%)
High school	36 (19%)	15 (7.8%)	51(13.4%)
University Students	20 (10.6%)	121 (62.7%)	141(36.9%)
Graduated	110 (57.8%)	58 (29.3%)	168(43.2%)
Employment Status			
Yes	114 (60%)	80 (40.4%)	194(50%)
No	76 (40%)	118 (59.6%)	194(50%)
Marital Status			
Unmarried	4 (2.1%)	26 (13.3%)	30 (7.8%)
Married	174 (91.6%)	169 (85.3%)	343 (88.4%)
Divorced	8 (4.2%)	1 (0.5%)	9 (2.3%)
Widowed	4 (2.1%)	2 (1%)	6 (1.6%)

Around 65% of the participants who previously delivered had vaginal delivery. Check Table 2 for details.

Table 2: Previous Modes of Delivery of our Participants

Age	Vaginal Delivery	C-section Delivery	Had both deliveries
< 25	8	7	1
26-35	55	25	0
> 36	61	27	6
Total	124 (65.3%)	59 (31.1%)	7 (3.6%)

With regards to their preferred mode of delivery, the majority, around 80%, preferred vaginal over Cesarean section delivery, and this was statistically significant, with a P-value of < 0.005. Among the women who underwent C-section delivery, the reason for that was investigated and is shown in Table 3. Most of those who underwent C-section stated that it was emergent rather than planned, 96.3% of which reported that it was recommended, and in around 95% of the cases, this was recommended by their doctors.

Table 3: Reasons for C-sections Delivery among Participants

Reasons for C-section	
Planned	
Previous Traumatic Vaginal Delivery	5(17.9%)
Previous Cesarean	8 (28.5%)
Choice	12 (42.9%)
Other	3 (10.7%)
Emergency	
Distressed Baby	17 (44.7%)
Distressed mother	11 (28.9%)
Prolonged Labor	5(13.2%)
Other	5(13.2%)
Was it Recommended?	
Yes	52 (96.3%)
No	2 (3.7%)

Based on the data collected, concerning the sources of knowledge about different modes of delivery, doctors seemed to significantly play an important role in helping participants decide on the mode of delivery (P value of 0.008).

Among the women who preferred vaginal delivery, the majority agreed that it is associated with early discharge from the hospital, less pain after delivery, faster postpartum recovery, and less scars post delivery. 54 % agreed that they are able to handle the pain, and around 75% thought that vaginal delivery is associated with easier breastfeeding post delivery (data shown in **Table 4**). As for those who preferred C-section, it was for the following reasons: 85 % was for fear of pain. 46% because they had previous Cesarean section history. Around 60% believed that it as a safer way of delivery for the mother and baby respectively (data shown in **Table 4**).

Table 4: Reasons for Preferring Vaginal Delivery or Caesarian Section Delivery

	Strongly Agree	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
Preferring Vaginal Delivery					
Shorter Hospital stay	121 (40.7%)	133(44.8%)	32(10.8%)	11(3.7%)	0(0%)
Faster post- partum recovery	131(44.6%)	127(43.2%)	25(8.5%)	11(3.7%)	0(0%)
Ability to handle pain well	50(17.1%)	108 (36.9%)	74 (25.3%)	42(14.3%)	19(6.4%)
Easier Breastfeeding	95(32.5%)	127 (43.5%)	60 (20.5%)	8(2.8%)	2(0.7%)
Prefer Husband's company	82(28.1%)	120 (41.1%)	76 (26%)	13(4.5%)	1(0.3%)
Less painful afterwards	99(34%)	134 (46%)	39 (13.4%)	15(5.2%)	4(1.4%)
Less scar	131(44.4%)	112 (38%)	41 (13.9%)	10(3.4%)	1(0.3%)
Preferring Cesarean section					
Fear of pain	35(47.9%)	27(37%)	8(11%)	2(2.7%)	1(1.4%)
Previous cesarean	17(26.2%)	13(20%)	18(27.7%)	14(21.5%)	3(4.6%)
Easier to plan	35(48.6%)	24(33.3%)	8(11.1%)	3(4.2%)	2(2.8%)
Safer for mother	28(38.4%)	24(32.9%)	15(20.5%)	6(8.2%)	0(0%)
Easier to get back to sexual activity	11(16.4%)	15(22.4%)	28(41.8%)	12(17.9%)	1(1.5%)
Safer for Baby	30(41.1%)	29(39.7%)	10(13.7%)	4(5.5%)	0(0%)
No epidural needed	11(15.7%)	22(31.4%)	25(35.7%)	11(15.8%)	1(1.4%)

Women were also asked questions related to their perception of the risks associated with different modes of delivery. 50% believed that vaginal delivery does not increase maternal death, while 34.6% stayed neutral on the subject. The same goes for the C-section data collected, where again 50% of women believed that even Cesarean delivery does not increase maternal death. When asked about the risk of deep vein thrombosis (DVT) associated with the different modes of delivery, it was found that 17.5% believed that vaginal delivery increases risk of DVT, while 21.9% believed that Caesarian section delivery increased DVT risk. 11.4% thought that vaginal delivery would increase risk of injury to other organs while 22.2% thought that Cesarean delivery increased risk of injury. The majority of the women were aware that Cesarean delivery increased length of hospital stay. Please check Table 5 for details.

Table 5: Perception of Women about Modes of Delivery

Risks	Mode of Delivery	Agree	Neutral	Disagree
Increased Maternal Death	Vaginal Delivery	45(15.4%)	101(34.6%)	146(50%)
	Cesarean section	10(14.1%)	25(35.2%)	36(50.7%)
Short term fetal Respiratory Distress	Vaginal Delivery	46(15.8%)	134(45.9%)	112(38.3%)
	Cesarean section	8(11.2%)	32(45.1%)	31(43.7%)
Affect Breastfeeding	Vaginal Delivery	51(17.5%)	82(28.2%)	158(54.3%)
	Cesarean section	16(21.9%)	25(34.3%)	32(43.8%)
Affect Future Pregnancies	Vaginal Delivery	46(15.9%)	77(26.5%)	167(57.6%)
	Cesarean section	20(27.8%)	25(34.7%)	27(37.5%)
Increased Risk of Blood Clot in Legs	Vaginal Delivery	58(19.9%)	142(48.8%)	91(31.3%)
	Cesarean section	16(21.9%)	38(52.1%)	19(26%)
Increased Risk of Injury to other Organs	Vaginal Delivery	33(11.4%)	125(43.1%)	132(45.5%)
	Cesarean section	16(22.2%)	30(41.7%)	26(36.1%)
Increased Risk of bleeding	Vaginal Delivery	113(38.3%)	111(37.6%)	71(24.1%)
	Cesarean section	17(23.6%)	30(41.7%)	25(34.7%)
Increased Length of Hospital Stay	Vaginal Delivery	30(10.4%)	83(28.6%)	177(61%)
	Cesarean section	31(42.5%)	30(41.1%)	12(16.4%)

Perception of women with regards to epidural anesthesia use was also investigated and it was shown that around

70% of women knew about it, but only 35% used it during vaginal delivery.

4. DISCUSSION

The rate of C-section was assessed in Lebanon and was found in one of the studies to be 7.6% with the rates varying between different regions and reaching 13.4% in Beirut-Mount Lebanon zone (9). In the same study, determinants for Cesarean section were assessed and they were maternal age ≥35 years, number of antenatal consultations ≥4 and birth weight ≤ 2500 g (9). Our study has showed that 79.5% of the women interviewed preferred vaginal delivery over C-section. A qualitative study was conducted in North of Iran and showed that women there considered vaginal delivery as a safe mode of delivery, with fulfillment of maternal instinct, and they believe that C-section is a procedure that is more likely to be linked to future complications, but is a painless mode of delivery (10). Another study conducted in Turkey showed similar results to ours where the majority of the women there (87%) opted for vaginal delivery (11). In our study, we showed that women preferred vaginal delivery because it was associated with shorter hospital stay and easier postpartum recovery. Similarly, another study in Ghana showed that their women preferred vaginal delivery because they believed that it was the natural and safer way to deliver, and it was less expensive, and associated with reduced morbidity post-delivery and early discharge from hospital. Among those who preferred C-section delivery, the avoidance of labor pains was their main reason (12). In Turkey, the main reasons for preferring vaginal was feeling less pain, having a faster recovery and less bleeding and infection risk (11). In another study in Chile, women there also believed that vaginal delivery was safer and was associated with better recovery post-delivery (13). In our study, it was noted that the majority of the participants believed that vaginal delivery is associated with easier breastfeeding post-delivery. A retrospective cohort study of Ohio births was done and showed that

women who had vaginal birth after a previous cesarean section were more likely to breastfeed than those who delivered by having a repeat cesarean section (14). Among our participants who preferred C-section, the majority do so for their fear of pain. A study done in North Trinidad showed that among their women who chose C-section, as their preferred choice of delivery, was because of their perception of its maternal or fetal safety and for its association with less pain (15). When asked about their perception of the risks associated with different modes of delivery, it was believed that C-section was associated with higher risk of deep vein thrombosis, but our participants believed that both modes of delivery had equal risks on maternal morbidity and mortality. On the other hand, several studies showed that elective CS was linked to a significantly higher risk of mortality and morbidity in both mothers and infants when compared to vaginal delivery (16-17).

5. CONCLUSIONS

In our study, contrary to what was expected, it was noted that majority of the Lebanese participants preferred vaginal delivery Although this is the case, most of the pregnant women are undergoing elective caesarean deliveries for non-medical reasons, and this has been noted to be increasing in number and greater emphasis should be placed on understanding the motivation, values and fears. Thus, further awareness should be done with regards to that aspect and on ensuring that women understand the risks associated with C-section.

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