

Cesarean section on demand: Is it a choice among women in Saudi Arabia?

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Abstract

Aims: The aim of our study is to determine the popularity of cesarean sections (CS) on demand among women in Saudi Arabia and to assess the factors affecting the choice of the delivery.

Materials and Methods: A cross-sectional survey using a self-administered electronic questionnaire was performed from 15/9/2012 until 17/1/2013. A total of 5,026 women of age 20-50 years regardless of their nationality residing in Saudi Arabia were enrolled, including those who were married, never been married or had been previously married.

Results: We found 4067 (80.9%) of the study population preferred vaginal delivery. Among the women who preferred vaginal delivery, 2555 (62.8%) did so because they needed a shorter time to return to normal life, while 674 (70.3%) of the women who preferred CS did so because they wanted to avoid labor pains.

Conclusions: The majority of the population preferred vaginal delivery.

Keywords: Cesarean section, Cross sectional study, Pregnancy.

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Introduction

Cesarean section (CS) is one of the most common surgical procedures worldwide; it is performed in both developed and developing countries^[1]. CS on demand refers to a primary cesarean delivery that is undertaken because the mother prefers this type of delivery without medical or obstetrical indications.^[2]

The CS rate has risen worldwide and

caused a lot of concerns^[3-10]. Thus, the rising rate of CS on demand is an important obstetrical care issue that is now accepted by patients and physicians^[2]. Compared to normal vaginal delivery, cesarean delivery carries a lot of risks and morbidities such as endometritis, blood transfusion, pneumonia and longer maternal hospitalisation^[11,12]. One report, demonstrated a 69-% higher risk of neonatal morbidity in cesarean deliveries without

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labor^[9]. Many studies report that women have a lot of concerns regarding the fear of childbirth and the risk on the baby's health^[2,9].

To date, randomised controlled trials have not revealed much information to give recommendations on planned cesarean sections for non-medical reasons^[3,4]. Patients with lower educational levels are the most likely to have cesarean sections^[5], as they have no information regarding the risks and benefits of cesarean deliveries. Increased preference for CS has been observed in women with a history of previous CS^[7]. This study aimed to find out the prevalence of CS on demand among women in Saudi Arabia and to assess the factors affecting their choice of delivery.

Materials and Methods:

This cross-sectional survey was conducted through an electronic (HTML format) questionnaire from 15th September, 2012 to 17th January, 2013, within the Kingdom of Saudi Arabia. The questionnaire bearing 17 questions was prepared in Arabic language by the mutual efforts of all authors. All questions were closed ended, i.e., some had binary answers (yes/no) while others ended by multiple choice options. Moreover, it also contained the queries about the demographical information of participants. The target population was determined as the females of age 20-50 years regardless of their nationality residing in Saudi Arabia. Questionnaire was distributed through electronic media, i.e., emails, facebook, twitter, whatsapp, and blackberry messenger by all authors to their relatives, colleagues, and friends. All the participants were instructed to further distribute the questionnaire to their known females. Response was gathered back electronically.

Data was analysed by using SPSS version 16 (SPSS Inc., Chicago, IL, USA). Descriptive analysis done as mean \pm standard deviation for quantitative variable while categorical data was expressed in number (percentage). Moreover, categorical data was also compared by using Chi-square test techniques. The alpha level was kept <0.05 .

Informed Consent:

All the participants were made aware of all potential and future prospects of this survey and electronic consent was taken by all. All respondents were assured of strict confidentiality of their identity.

Results:

Five thousand and twenty-six females were recruited. Of this, 93.9% were Saudi. Almost half of our study population was aged between 20 and 30 years (48.8%). The educational level among the group was mainly university and higher level representing 71.6% of the study population. Most of the women were married (89.1%). Out of the married females, majority (42%) had three to five children.

Assessing the women's awareness about the complications of vaginal delivery and CS showed that 2399 (47.7%) and 2893 (57.6%) of the participants were aware of the complications, respectively. Moreover, awareness about the type of complication due to CS was determined by the majority, i.e., 1063(36.7%). Among the women who had CS, 1347(78.9%) had one or two CS before and majority 919(55.1%) had the indications for primary CS for fetal reasons followed by 379(22.7%) for maternal reasons. Regarding their choice of delivery, 4067(80.9%) of the study participants chose vaginal delivery. Among those who opted for vaginal delivery,

2555 (62.8%) preferred it because they wanted to return to normal life as quickly as possible. In the group who preferred CS, 674 (70.3%) chose so because they had fear of labor pain. The majority of the study population 3045(60.6%) thought that it was the doctor's right to choose the method of delivery.

Previous experience affected the women's choice in 3322 (66.1%) of the cases. We also asked each woman about the preferred method of delivery among their close friends and relatives, with only 418(8.3%) stating CS. Moreover, majority of the females 77.7% favored a female obstetrician for them.

Table 1. Demographical Information

Variables		n (%)
Nationality	Saudi	4720 (93.9)
	Non Saudi	306 (6.1)
Age groups (years)	20-30	2455 (48.8)
	31-40	1891 (37.6)
	41-50	680 (13.5)
Educational Status	Primary school or less	44 (9)
	Intermediate	222 (4.4)
	High school	1163 (23.1)
	University or more	3597 (71.6)
Marital Status	Married (currently or in the past)	4478 (89.1)
	Single	548 (10.9)
no. of having Children*	No	271 (6.1)
	1-2	1839 (41.4)
	3-5	1862 (42)
	More than 5	466 (10.5)

* single cases were excluded

The nationality difference, i.e., Saudi and non-Saudi, educational level and marital status did not affect the choice of delivery (p value: 0.4, 0.2, and 0.3, respectively).

The majority of the study population 3360 (78.3%) had vaginal delivery. We found that both the history of previous CS and vaginal delivery did have impact on their choice of delivery (p value <0.0001). Among the women who had undergone CS and vaginal deliveries, 398 (21.7%) and 773 (21.1%) had history of complications during labor, respectively. Complicated CS and vaginal deliveries also affected the decision on the choice of mode of

delivery significantly (p value <0 .0001), with 85.9% of the women who had had uneventful vaginal deliveries and 78.2% of those who had complicated CS, favoring vaginal delivery.

Discussion:

Cesarean section rates are progressively rising in many parts of the world. One suggested reason for this is the CS on demand, which is performed at the mother's request to avoid vaginal birth and in the absence of any recognized medical or obstetric indication.

In this study, we recruited around 5,026 subjects, which is one of the largest series

compared with other parts of the world: Adageba et al. in Ghana [13], Mungrue et al. in Trinidad [14], Dursun et al. in Turkey [15] and

Gallagher et al. in Canada [16]. They recruited 317, 368, 400 and 140 patients, respectively, in their studies.

Table 2. Females' preference about mode of delivery

Variables/Cross tab.		If you were given the choice of the mode of delivery, what would you prefer?			P Value
		VD n (%)	CS n (%)	Total n (%)	
Have you ever had a CS? (n=4170)	Yes	1137(66.6)	570(33.4)	1707 (40.9)	0.0001
	No	2236(90.8)	227(9.2)	2463 (59.1)	
Have you ever had a VD? (n=4292)	Yes	2890(86)	470(14)	3360 (78.3)	0.0001
	No	590(63.3)	342(36.7)	932 (21.7)	
Have you ever had any complication during or after CS? (n=1707) (n=1818)	Yes	290(78.2)	81(21.8)	371(21.7)	0.0001
	No	860(64.4)	476(35.6)	1336(78.3)	
Have you ever had any complication during or after VD? (n=3360)	Yes	535(75.4)	174(24.6)	709(21.1)	0.0001
	No	2277(85.9)	374(14.1)	2651(78.9)	

* Vaginal delivery

** Cesarean section

We observed that 80.9 % of our study population favored vaginal delivery, mimicking the reported global ratio. Mazzoni et al. found in his systematic review that 84.4% preferred vaginal delivery [3].

Most of the women in our series, 62.8%, opted for a vaginal delivery because vaginal delivery required less time to return to normal life. Only 5.1% in our study group were underwent CS on their preference without any obstetrical cause and that is consistent with the worldwide prevalence of 1-18% of all the cesarean deliveries on maternal request. [2]

However, 19.1 % of our study participants preferred CS and they did so because of the pain associated with vaginal delivery. The same reason was found in a study conducted in Hong Kong by Pang et al. [17]. They demonstrated that the most important reason for women who changed their preference from vaginal to elective cesarean delivery was the fear of vaginal birth. However, a study in –the USA by Declercq et al. [12] confirmed that cesarean delivery was more painful than vaginal birth with regard to postpartum pain.

In our study, most women with previous

CS (66.6%) chose vaginal delivery as their preferred mode of delivery. Selo-ojeme et al.^[18] reported that 55.3% of their population preferred vaginal delivery. There was no relationship between marital status and the choice of delivery. Fuglenes et al.^[19] stated

that the proportion of women with a strong preference for CS was higher among multiparous than nulli-parous women. This difference was attributed to their experience at the previous CS and fear of delivery, and not to the parity itself.

Table 3. Participants perception about mode of delivery questionnaire

		n	%
1	Have you ever had a VD? (n=4292)	Yes	3360 78.3
		No	932 21.7
2	How many previous normal VDs you have experienced? (n=3360)	1-3	2228 66.3
		>3	1132 33.7
3	Have you had any complications during or after the VD? (n=3360)	Yes	709 21.1
		No	2651 78.9
4	Have you ever had a CS? (n=4170)	Yes	1707 40.9
		No	2463 59.1
5	How many previous CS you have experienced? (n=1707)	1-2	1347 78.9
		>2	360 21.1
6	What was the indication of first CS? (n=1668)		
	Mother/maternal reason	379	22.7
	Fetal reason	919	55.1
	Mother/maternal & fetal both	285	17.1
	Elective on demand	85	5.1
7	Have you had any complications during or after the CS? (n=1707)	Yes	371 21.7
		No	1336 78.3
8	Do you know what the complications of CS are? (n=5026)	Yes	2893 57.6
		No	2133 42.4
9	Which of the following complications of CS you are aware of?*(n=2893)		
	Infections	930	32.1
	Bleeding	910	31.5
	Potential need for blood transfusion	827	28.6
	Adhesion	1063	36.7
	Leg or lung thrombosis	749	25.9
	Bowel, ureter or bladder injury	519	17.9

*Each complication was checked by multiple participants

In our study, the majority of women were aware of the complications of CS (57.6 %); however, Dursun et al.^[15] found that the majority of their series had no or wrong ideas

about the risks of CS. Complicated vaginal deliveries affected the decision of the mode of delivery in the future significantly: 85.9% of women who had had uneventful vaginal

deliveries opted for vaginal deliveries, while only 75.4% of those who had suffered complications during delivery preferred

vaginal birth. Nonetheless, the majority still opted for vaginal delivery.

Table 3. Participants perception about mode of delivery questionnaire (continued)

10	Do you know the complications of VD? (n=5026)	Yes	2399	47.7
		No	2627	52.3
11	If you were given the choice of delivery, what would you prefer? (n=5026)	VD	4067	80.9
		CS	959	19.1
12	If you prefer a VD**; Why? (n=4067)			
	It needs shorter time to return to normal life		2555	62.8
	Probability cesarean births in future		166	4.1
	Cosmetic reason (avoiding cesarean scars)		260	6.4
	Fewer complications on the mother and fetus		1394	34.3
13	If you prefer a CS; Why [†] ? (n=959)			
	Fear of the pain during vaginal birth		674	70.3
	Worries about pelvic floor relaxation		339	35.3
	To avoid the episiotomy/tears		203	21.2
	The undesirable experience of the previous VD		185	19.3
14	What do you think it is who's right to choose the method of delivery? (Choose single best option) (n=5024)	Obstetrician	3045	60.6
		Mother	1522	30.3
		Husband	457	9.1
15	If you are given choice of mode of delivery, What affects your choice? (Choose single best option) (n=5026)	Husband	448	8.9
		PE ^{††}	3322	66.1
		Parents	1256	25
16	In your opinion, the community in which you live, most of the women prefer what? (n=5026)	VD	4608	91.7
		CS	418	8.3
17	What gender of your treating obstetrician you will prefer? (n=5026)	Female	3907	77.7
		Male	1119	22.3

** Multiple participants checked the options.

† Multiple participants checked the options.

†† Previous experiences.

Most of our study population were highly educated and chose vaginal delivery as their preferred option, thus, education did not affect choice. Tollanes et al. ^[5] found that education did affect most women's choice, as those with lower educational levels tended to choose CS. We detected no difference between maternal age and choice. However, Lin et al. noted that

the request for CS increased with maternal age^[20].

The majority of our series (77.7%) preferred a female obstetrician. Nationality did not affect the choice of the doctor's gender in our study. However, all the women in our series were Muslim and hence, religion could have had an impact.

Conclusively, choice of cesarean section on demand in Saudi Arabia is little bit higher than medical and obstetrical indication for cesarean section in general population. However, small number of females had no obstetrical indication at the time of their first cesarean section but it was just preferred by them. The majority prefer vaginal delivery (80.9%), with the doctor also influencing the choice. Women in Saudi Arabia are aware of the complications surrounding cesarean section.

Conflict of interest:

We declare that we have no conflict of interests.

Recommendations:

In the absence of maternal or foetal indications for cesarean delivery, a plan for

vaginal delivery is safe and appropriate and should be recommended.

Given the balance of risks and benefits associated with cesarean delivery on maternal request, we offer the following recommendations:

1. Cesarean delivery on maternal request should not be performed before a gestational age of 40 weeks or expected date of delivery.
2. Cesarean delivery on maternal request should not be motivated by the unavailability of effective pain management.
3. Cesarean delivery on maternal request particularly is not recommended for women desiring several children, given that the risks of placenta previa, placenta accreta, and gravid hysterectomy increase with each cesarean delivery.

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الولادة القيصرية الاختيارية بالطلب وبدون دواعي طبية، هل هي شائعة في السعودية؟

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الملخص

الهدف: تهدف هذه الدراسة إلى معرفة نسبة السيدات السعوديات الحوامل اللاتي يفضلن الولادة القيصرية الاختيارية بالطلب وبدون أي دواعٍ طبية.

كما تهدف إلى معرفة العوامل التي تؤثر عليهن في اختيار طريقة الولادة.

الطريقة: دراسة مقطعية في المجتمع باستخدام استبيان إلكتروني في الفترة 15-09-2012 إلى 17-01-2013. تم انضمام 5026 سيدة متزوجة من الفئة العمرية (20-50 عاماً) واللاتي يقمن في المملكة العربية السعودية بغض النظر عن الجنسية. شملت الدراسة المتزوجات ومن سبق لها الزواج ومن لم يسبق لها الزواج.

النتائج: وجدت 4067 سيدة (80.9%) يفضلن الولادة الطبيعية. منهن 2555 سيدة (62.8%) اخترن الولادة الطبيعية لرغبتهم في العودة للحياة الطبيعية والتعافي في وقت اسرع من الولادة القيصرية. بالنسبة للسيدات اللاتي اخترن الولادة القيصرية فالأغلبية (70.3%) منهن اخترنّها لتجنب الأم الولادة الطبيعية.

الاستنتاجات: السيدات يفضلن الولادة الطبيعية.

الكلمات الدالة: دراسة مقطعية، الحمل.