

Maternal Perception and Experiences of Cesarean Section Delivery, an Exploratory Study in Jordan

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Abstract

Objectives: This study aims to determine females' views, experiences, and attitudes regarding the cesarean section (CS) and to explore the factors that increase the prevalence of CS in Jordan. **Method:** This is a cross-sectional study using a questionnaire that was distributed electronically through social media websites. Study participants included 1005 females with a history of at least one CS. Awareness, experiences about CS, complications, and reasons for performing CS were investigated. **Result:** Most of the respondents stated that the source of their knowledge about CS was from the internet (36.2%) followed by family and friends (31.6%). The majority of respondents were satisfied with their CS experience (72.8%). More than half of the participants (56.9%) reported that CS carries no risk for infants. About 53% of respondents stated that the most common reason leading women to choose to give birth via CS is the fear of labor pain. However, the majority of the respondents disagree with performing CS under maternal request (59.2%). **Conclusion:** This study indicated that Jordanian females don't have reliable sources of information about CS. This leads to lower awareness of CS and its complications and, as expected, CS is more likely to be performed by privately insured women.

What's already known about this topic?

- CS is one of the most commonly performed abdominal surgeries in women
- Some pregnant women ask for CS delivery even when there is no medical indication
- Some doctors choose to perform CS seeking better financial reward

What does this article add?

- Jordanian women don't have a reliable sources of information about CS
- Performing unnecessary CS in Jordan is common
- There is an urgent need to adopt guidelines to reduce the prevalence of CS in Jordan

Keywords: Cesarean section; Females; Jordan; Awareness; Experience; Attitudes.

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1. Introduction

Cesarean section (CS) is one of the most commonly performed abdominal surgeries in women during recent decades (1, 2). The rate of CS varies between countries and medical facilities but continues to rise all over

the world (1, 2). It is thought that some pregnant women ask for CS delivery even when there is no medical indication, where many pregnant females prefer the CS procedure because of their fear of labor pain which is the most common reason for avoiding spontaneous vaginal delivery (3). Even though CS is a lifesaving procedure, but still, it has a short- and long-term morbidity (2, 4).

The World Health Organization (WHO) focuses on the fact that performing CS without a medical purpose could put the mother and her baby at risk of short and long term complications (2). Those include the risk of death, blood transfusion, hysterectomy and risks related to the stay in an intensive care unit (ICU) (5). Furthermore, the lack of labor in elective CS delivery increases the risk of neonatal mortality, prolonged ICU stay (4), and extremely elevated costs (6). In 1985, based on evidence at that time, WHO put an optimal rate for CS of 10-15% (7) but in 2015 WHO replaced this rate and state that CS should be provided to women in need rather than making great efforts to obtain a specific rate (2).

The present study aims to determine females' views, experiences, and attitudes regarding the CS procedure. Besides, it aims to focus on the role of health care providers in delivering the proper advice to pregnant women and increase their awareness regarding CS.

2. Methodology

2.1 Study Sample and data collection

Study participants included female ladies with a history of at least one CS. It was aimed to reach a sample size of 1000 participants, and the investigators were able to collect data from 1018 participants due to the increased response from females. The study questionnaire was distributed electronically as a google form through social media websites (such as Facebook and WhatsApp) during the period from the 26th of July to the 9th of September. Before completing the questionnaire, the participants were asked to sign an electronic consent form where information about the purpose of the study was provided. Only those who agreed to participate in the study were able to view and fill the survey.

2.2 Survey Instrument

The survey was developed in Arabic after reviewing related studies (8, 9). The questionnaire divided into five sections as follows: The first section is demographic data; to allow examination of variability in responses according to participant characteristics including age, educational level, place of living, employment, parity, previous abortion, and chronic diseases. Section two explored respondents' awareness about CS including the source of participant knowledge about CS. Also, it evaluated the participant conviction if CS endure danger on the female or the baby, if the participant agrees with performing CS upon maternal request without medical indication, the participant point of view of having a guarantee to perform CS with a medical indication only, whether the participant can mention any of the CS complications or not, and the most common reason for CS upon maternal request from a participant point of view. Section three explore the personal maternal experience of CS including the number of CS the participant had, age at last CS, gestational age, where CS performed (whether at a governmental sector or privet sector), how much the performed CS surgery costs, hospital stay and recovery period needed after CS, the complications that occurred after CS, whether or not the participant satisfied with her experience with CS, and if she will encourage other females to give birth via CS.

Section four explored the self-reported indications for giving birth through CS surgery including the reason for doing CS, whether the CS is planned with the obstetrician or if the CS is performed upon participant request, or if the participant thought that the obstetrician performed the CS with no medical indication, or if the participant had normal delivery after CS. Finally, section five explore the self-reported effects of CS surgeries on respondents' children including the weight of the baby at birth, the prematurity stay, the complications the baby had after CS, whether or not the female able to breastfeed her baby after CS and why if not, the participant point of view if her CS baby suffered more than others. A pilot study was conducted among 20 participants to assess content validity, some questions were not clear and modified accordingly.

2.3 Ethical Approval

The study was approved by the research committee in the faculty of pharmacy and the institutional review board at King Abdulla University Hospital on the 25th of July, 2019.

2.4 Statistical Analysis

Data were entered and assessed with the Statistical Package for the Social Sciences (SPSS), version 21. The analysis of answers for questions consists of descriptive statistics that involved frequency and percentage for categorical variables.

3. Result

3.1 Sociodemographic Characteristics

About 1005 respondents took part in this cross-sectional survey, representing 99.3% of the proportion of people that consented to participate and filling the questionnaires (n= 1012). Respondents who did not agree with the consent form (6 respondents) and who had inappropriate answers (7 respondents) were excluded from the study.

The majority of respondents were mothers older than 30 years old (67.4%) with a high educational level, most of them are employees (57%). About 88% of them lived in the cities of Jordan. Most of the respondents did not have chronic diseases (88.2%) or previous abortions (68.1%). Further details were showed in **Table 1**.

3.2 Maternal awareness about CS in general

The maternal awareness about CS was measured based on response to 8 questions (**Table 2**). Most of the respondents stated that the source of their knowledge about CS was from the internet (36.2%), family and friends (31.6%), and with a lower percent having their knowledge from workers in the medical fields (24.8%). Thirty-one percent (31.2%) of respondents stated that CS doesn't carry risks on maternal's health, about 35% of respondents didn't have a clear opinion, and 33.8% of respondents see that CS carry risks on the mothers. Regarding if CS carries risks on infants' health, 56.9% thought that CS carries no risk on infants and 31.9% had no clear opinion. On the other hand, the majority of respondents disagree with performing CS under maternal request (59.2%). In agreement with that, 59.6% think that CS needs guarantee to be performed under medical reasons only as 53.8% of the respondents can mention at least one complication of CS (mostly were bleeding, pain at the wound site, long recovery period, infection, adhesion, anesthesia complications, thrombosis, and scar). About 53% of respondents stated that the most common reason leading women to choose to give birth via CS is the fear of labor pain.

3.3 Maternal's experience with CS

Participants' maternal's experience with CS was presented in (**Table 3**). The majority of the respondents had only one or two CS (46% and 32.6%, respectively). 45.6% of the respondents had their last CS in the age group of 26-30 years old, most of the respondents performed CS at a gestational age of 31-40 weeks (78.9%), 89.8% of the respondents stayed in the hospital for 1-3 days after CS, and 52% needed a recovery period from two weeks to one month. The higher percentage of respondents (75.3%) had their CS in private hospitals, and (44.4%) of respondents had full coverage insurance. Finally, it appears that the majority of the respondents were satisfied with their experience (56.3% were satisfied and 16.5% were strongly satisfied).

Regarding CS complications (**Table 4**), about 29.4% of the respondents had complications after CS. The most common complications were wound pain and inflammation (11.3%), back pain and general weakness (6.4%), flatulence and abdominal pain (4.6%), bleeding (3.9%), headache (2.4%), fever or hypothermia (1.4%), adhesions (1.2%), hypotension or hypertension (1.1%), and constipation (1.1%).

3.4 Reasons for CS from a maternal point of view

Most of the respondents were able to declare the reason that led their doctors to perform CS. The most common reason is the inappropriate pelvic dimensions for safe delivery (33.6%). Other reasons included the baby position (13.9%), fetal distress (9.1%), twins (5.5%), and previous CS (4.6%). On the other hand, the

majority of the respondents didn't request a CS (79.2%) or planned it (56.2%) with their doctors. The most common reasons that the respondents claimed to request a CS were the fear of normal delivery (9.6%), the impression that the CS is easier (6.3%) and has no pain (4.6%), and for cosmetic reasons (0.4%).

It is worth mentioning that a high percent of the respondents had the confidence that the doctors performed their CS for medical reasons (86.3%) and that the majority of the respondents (92.7%) failed to have a normal delivery after that.

4. Discussion

The maternal's awareness about CS was measured in this study and the respondents stated clearly with high percentages that their source of knowledge was mainly the internet followed by social engagements with family and friends. Interestingly, little knowledge input was delivered from proper health care providers. Therefore, it is evident that the information they accessed was not from a reliable or evidence-based source and it is obvious that they may have had no clear information about CS. Health care professionals need to ensure that the information given to women is accurate and imparted at a level that is appropriate to the women concerned.

Most of the respondents didn't have clear knowledge if CS carries risks on the mother (34.7%), and about 31.6% of them thought that the CS carries no risks on mothers' health. Their knowledge about this issue was wrong as CS carries short and long term risks on mothers' health (4, 10, 11). In a population-based study, the risk of severe postoperative bleeding is two to three times greater than normal delivery (10). Another study showed that severe maternal morbidity was two times higher and the risk of hysterectomy was four times higher with CS compared with normal delivery (4). Postoperative thromboembolism risk also increased five folds in CS compared with normal delivery (12).

The majority of the respondents (56.9%) thought that CS is safe for the infant. However, it is known that babies can be affected adversely after CS (13, 14). This indicates that women need to be educated about CS risks on mothers and babies to increase their awareness.

Moreover, most respondents disagree with performing CS under maternal request (59.2%) and think that CS should be performed only under medical reasons (59.6%). This indicates that mothers are likely to accept the decision for a CS by the attending physician. This finding parallels the findings of Levinson et al in Canada, who found that half of the respondents (52%) preferred to leave the final decision to their physicians (15). Deber et al also found that the majority of patients wished physicians to do the "problem-solving tasks", which include using the medical information to make a diagnosis (16). It is therefore essential that the health care providers should engage pregnant women in a meaningful way to use the information that they possess to make shared decisions, which the mothers will be ultimately satisfied with.

Furthermore, the respondents believed that the most common reason leading them to request CS is the fear of pain as they think the CS is a painless method of birth. In agreement with that, Gosh and James reported that pregnant women who don't want to bear massive pain during labor have a strong preference for CS (17). Zhao and Chen also reported that the fear of labor pain remains one of the most cited reasons for avoiding spontaneous vaginal delivery (3). We believe that this issue may largely be avoided during the antenatal clinic visits if pregnant women are well educated on the available delivery methods and how to reduce the stress and fear before and during delivery.

The higher percentage of the respondents (75.3%) had their CS in private hospitals, and (44.4%) of respondents had full coverage insurance. Multiple studies have shown that private sectors are motivated by financial incentives (18-21). For example, the financial benefit associated with longer hospital stays after CS and private hospitals may incentivize physicians to favor their decision with institutional strategies (20, 21). Physicians are also known to be motivated by higher fees paid for CS compared with normal vaginal delivery (20). They are also in a position to take advantage of the asymmetrical information between them and patients which may lead to recommendations that are not always parallel with patients' needs (19). There is also evidence that physicians with higher numbers of privately insured patients will tend to perform

more CS (19). Implementing non-clinical practices like obtaining a second opinion before undergoing the CS procedure (11) and the Robson classification in clinical practice in hospitals (22) can help in reducing the CS rates. However, further studies should be performed in the future to shed light on the real reasons leading to increased CS rates in private hospitals in Jordan.

Finally, the majority of the respondents were satisfied with their experience (56.3% were satisfied and 16.5% were strongly satisfied). This is expected as obstetricians noted that women did not consider CS as major surgery and they were not afraid of the procedure, alternatively, they look at CS as a routine practice. Bayes et al also showed in their research that CS is a long-anticipated and very special occasion (23).

5. Conclusion

This study contributed to the understanding that Jordanian women don't have reliable sources of information about CS. Consequently, this leads to lower awareness about CS and its complications and, as expected, CS is more likely to be performed by privately insured women. Further studies in the future will enable us to have a better understanding of this issue.

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Table 1. Demographic characteristics of the study sample (n= 1005)

Characteristics	Characteristics	Number	%
Age (years)	<25	85	8.5
	25-29	242	24.1
	30-34	374	37.2
	>=35	304	30.2
	Educational level	Secondary school	89
Diploma		135	13.4
Bachelors		669	66.6
Master		95	9.5
PhD		17	1.7
Place of living		Village	119
	City	886	88.2
Employment Parity	Employed	573	57
	Unemployed	432	43
	One child	274	27.3
	Two child	333	33.1
	Three child	229	22.8
	Four or more children	169	16.8
	Previous abortion	No	684
Yes		321	31.9
Chronic diseases	No	886	88.2
	Yes	119	11.8

Table 2. Maternal awareness about CS (n= 1005)

Questions	Answers	Number	%
Source of your knowledge about CS	Friends and family	318	31.6
	Internet	364	36.2
	Books	64	6.4
	Workers in the medical field	249	24.8
	Media	10	1.0
Do you think CS carry risks on the mother	Strongly Disagree	60	6.0
	Disagree	257	25.6
	Neither agree or disagree	349	34.7
	Agree	279	27.8
	Strongly Agree	60	6.0
Do you think CS carry risks on the infant	Strongly Disagree	118	11.7
	Disagree	454	45.2
	Neither agree or disagree	321	31.9
	Agree	97	9.7
	Strongly Agree	15	1.5
Do you agree with doing CS under mothers request	Strongly Disagree	288	28.7
	Disagree	307	30.5
	Neither agree or disagree	157	15.6
	Agree	206	20.5
	Strongly Agree	47	4.7
Do you think CS need a guarantee to be performed under medical reasons only	Strongly Disagree	50	5.0
	Disagree	187	18.6
	Neither agree or disagree	169	16.8
	Agree	433	43.1
	Strongly Agree	166	16.5
Can you mention any complication of CS	No	482	48.0
	Yes	426	42.4
Mention any complication of CS	Maybe	97	9.7
	No complication	363	36.1
	Can Mention a complication	541	53.8

Questions	Answers	Number	%
From your point of view why women choose CS	Can't Mention complication	101	10.0
	Fear of pain	534	53.1
	Fear of losing the baby	214	21.3
	Advanced age	18	1.8
	Previous abortions	17	1.7
	Previous infertility	24	2.4
	Pregnancy was done via medical intervention	66	6.6
	CS is safe and more satisfying	132	13.1

Table3. Personal maternal experience

Questions	Answers	Number	%
Number of CS you had	1	462	46.0
	2	328	32.6
	3	142	14.1
	4	56	5.6
	5[?]	17	1.7
Age at last CS (years)	18-25	209	20.8
	26-30	458	45.6
	31-35	240	23.9
	36-40	89	8.9
	>40	9	.9
Gestational age (weeks)	<=30	14	1.4
	31-40	793	78.9
	>40	198	19.7
Where CS performed	Private	757	75.3
	Governmental	194	19.3
	Private + Governmental	54	5.4
Cost of CS	Total Assurance	446	44.4
	Partial Assurance	210	20.9
	Without Assurance	349	34.7
Hospital stay after CS (days)	1-3	902	89.8
	4-7	94	9.4
	>7	9	.9
	< 2 weeks	358	35.6
Recovery period	2 weeks-1 month	523	52.0
	>1month -3 month	102	10.1
	>3month	22	2.2
	No	710	70.6
Do you had complications after CS	Yes	295	29.4
	<5	758	75.4
When did you have your last CS (years)	5-<10	160	15.9
	10-<15	63	6.3

Questions	Answers	Number	%
Do you still suffer from any CS complications	[?]15	24	2.4
	No	618	61.5
	Yes	227	22.6
Are you satisfied with your experience	Maybe	160	15.9
	Strongly not satisfied	57	5.7
	Not satisfied	112	11.1
	Don't know	104	10.3
	Satisfied	566	56.3
Do you encourage others to go through CS	Strongly satisfied	166	16.5
	Strongly not encourage	156	15.5
	Not encourage	270	26.9
	Don't know	248	24.7
	Encourage	259	25.8
	Strongly encourage	72	7.2

Table 4. Types of complications that the women had after CS

Complications after CS		Number	Percent%
Wound pain and inflammation	Yes	113	11.3
	No	892	88.7
Back and leg pain, general weakness	Yes	64	6.4
	No	941	93.6
Abdominal pain and flatulence	Yes	46	4.6
	No	959	95.4
Bleeding	Yes	39	3.9
	No	966	96.1
Headache	Yes	24	2.4
	No	981	97.6
Fever/ hypothermia	Yes	14	1.4
	No	991	98.6
Adhesions	Yes	12	1.2
	No	993	98.8
Hypo/hypertension	Yes	11	1.1
	No	994	98.9
Constipation	Yes	11	1.1
	No	994	98.9
Others	Yes	86	8.6
	No	919	91.4