Pregnant Women Priority of Choices about Mode of Delivery: A Mixed Method Study

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Abstract

Background: Near about thirty years ago, there has been a significant raise in caesarean section (CS) rates in middle- and developed countries all over the world. CS rates persist to increase in spite of data that there is no related enhancement to women or babies health; to a certain extent, CS be able to raise the hazard of complications, such as maternal mortality, reproductive tract injuries. There is data that few women truly prefer CS. The study aimed to explore the prevalence of the preferences of pregnant women regarding mode of delivery. A further aim was to identify associated factors and look into reasons for the preference. Methods: A mixed methods design was used. Utilizing a mixed methodology, a self-administered questionnaire was distributed to (473) women and nine in-depth semi-structured interviews with mothers. The response rate was 83% which represented (394) women attending antenatal clinics between June 20 and August 20,2017 in the university maternity and child health hospital, Minia, Egypt. Results: Quantitative findings of the study showed that the mean age of the respondents was 31.6. Less than half (45.4%) of the respondents referred their preference to CS to the trust on the physician experience. With regards to "Reasons for preference of vaginal delivery", 40.6% mentioned that the recovery is faster/better, whereas, 40.1% were for no scar. There were 35.8% said it is a natural process and 34.8% were for no complications. About 24.4% were for less stay in the hospital, while, 22.3% were for less pain. Qualitative findings showed that there are three major themes identified in the study. The first theme is "Ideas". It has three subthemes. The second theme is "Future plans". While, the third theme is "Needs". Conclusion: Preference of the mode of delivery is personal and medical in nature. This means that individual decision should be taken into consideration rendering patient centered care to the pregnant woman during labor. Also, maternal and fetal medical condition should be manage properly. **Key words:** Vaginal delivery, caesarean section rate, women preference, mode of delivery.

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I. Introduction

Near about thirty years ago, there has been a significant raise in caesarean section (CS) rates in middle-and developed countries all over the world $^{[1-3]}$. CS rates persist to increase in spite of data that there is no related enhancement to women or babies health; to a certain extent, CS be able to raise the hazard of complications, such as maternal mortality, reproductive tract injuries. There are several and multifaceted reasons for this increasing trend, maternal request being one of the most repeatedly mentioned $^{[3-6]}$. Though, the rise in CS rates is often attributed in part to requests from women without a medical indication $^{[7]}$. There is data that few women truly prefer CS $^{[8,9]}$.

Caesarean delivery on maternal request (CDMR) is a division of elective CS, carry out not by medical indication, but on the demand of the mother^[10]. CS is a major surgical procedure aimed to reduction of complications for mothers and fetus. Globally, the percentage of CS, kept on to rise mostly in high- and middle-income countries. CS should be done when there is a risk to the mother or baby. The World Health Organization (WHO) gave more attention to evaluate the mother or fetus needs and discourage make CS without need. CS without a medical reasons put mothers and fetus at risk of health hazards ^[11].

CS is becoming more preferable and acceptable mode of giving birth to women than vaginal delivery for several suggested reasons. Some of these reasons are the liability to list a selective CS easily and conveniently, prevention or decrease of pain during labour, decrease the risk of injury of the perineum during labor, and a fear of vaginal delivery [12]. Other type of care is focused on mother- centered care like a basic standard in maternity care, this care is focused on the individual woman, include physical needs, social, emotional, mental, religious and cultural wellbeing [13].

According to WHO, a population-based rate of CS between 10% and 15% has considered as a perfect rate in which it was related to a great decline in maternal mortality ratio (MMR) and

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neonatal mortality rate (NMR) $^{[11]}$. In 2008, half of 137 countries have gone above this suggested rate $^{[14]}$. In almost of the countries, percentage of CS without medical reason ranged between 0.01% and 2% $^{[15]}$.

In 2004, there was a study tracking changes in CS in Egypt was reported. The rate of CS raised from 13.9% in 1988 to 22% in 2000, these data supported by the two Egyptian Demographic and Health Surveys (EDHS). The raise was related to CS delivery in the private sector ^[16]. On the other hand, this study didn't investigate the change in the rate of CS among mothers who are potentially at low risk for CS. Although EDHS is not belonging to institutional survey, it is reported that the DHS data on CS are reliable for local and global monitoring purposes since the recall bias on reporting a major surgical procedure is very low ^[17]. Percentage of CS in Egypt year by year give an idea about the raise of CS greater than before from 17.8% in 2000 to 59.7% in 2014^[18].

II. Objectives

To explore the prevalence of the preferences of pregnant women regarding mode of delivery. A further aim was to identify associated factors and look into reasons for the preference.

III. Material and methods

A mixed methods design was utilized as it has been recommended that attitude surveys should preferably develop a range of tools to avoid promoting the status quo $^{[19]}$. It gives researchers the chance to give a more broad overview and deeper understanding of the phenomenon $^{[20]}$.

Utilizing a mixed methodology, a self-administered questionnaire was distributed to (473) mothers. The response rate was 83% which represented (394) mothers attending antenatal clinics between June 20 and August 20,2017 in the university maternity and child health hospital, Minia, Egypt. A pilot study was conducted at the same clinics to examine the validity and reliability of the questionnaire. Change were done supported by the response taken from the mothers in the pilot study. The questionnaire consisted of open and closed end questions. It includes the following variables:-Independent variables:-Socio-demographic characteristics: Age, educational level, occupation and number of children. Dependent variables:- Items and statements reflecting knowledge and reasons for preference or refusing the elective Caesarean section. Following this, individual semi-structured interviews were conducted with 9 mothers gaining further insight into their delivery preferences. The researcher interviewed the respondents in the described session, and explained the objectives of the study to the participants and clarified any possible ambiguity, in addition to ensure completeness and adequate feed back of the questionnaires.

Informed consent was obtained from the participants . Anonymity of the participants were adopted to ensure confidentiality of the response. Collected data was kept confidential and was not used except for the study purpose. Inclusion criteria includes all women in the reproductive age 18-49 years old, pregnant women, nulliparous and multiparas, with and without previous CS. Exclusion criteria includes women in postmenopausal age.

Data were coded and checked for accuracy then entered into SPSS statistical software version 20. Analysis was performed by using the same statistical software package. Data were presented using descriptive statistics in the form of frequencies and percentages for quantitative variables, and mean and standard deviation for quantitative variables.

For the qualitative part, thematic analysis (TA) was done. TA is a method used themes to arrange the meanings. Braun and Clarke (2006) present TA as an analytic method. TA can be used to deal with the majority of research topics ^[21]. The aim of a thematic analysis is to categorize themes ^[22]. Braun & Clarke (2006) provided a six-phase guide for conducting thematic analysis. Step 1: Become familiar with the data, Step 2: Generate initial codes, Step 3: Search for themes, Step 4: Review themes, Step 5: Define themes, Step 6: Write-up^[21].

The study was approved by the Ethical and Research Committee in the hospital. Approval for conducting the study was taken from the Head of the hospital.

IV. Results

Quantitative findings

Table 1

Demographic Profile

Table 1 presents the data of the 394 women. Out of the 473 participants, 394 of them answered and returned completed questionnaires, representing a response rate of 83%. The table shows that less than half of the respondents (45.4%) were in age between 18 and 29 years (The mean age of the respondents was 31.6) whose BMI is 24.93 which can be classified as normal.

Table (1) Demographic Profile

Age	Number of Participants	%	BMI
18 – 29	179	45.4	24.93
30 – 39	129	32.8	27.32
40 – 49	86	21.8	24.16

Table 2 *Obstetrics Variables*

Out of the total respondents, (97%) were multigravida and (79%)were multipara. In relation to the stages of pregnancy, (53.8%) of the respondents were in third trimester. Near to ninety percent (90.1%) of the respondents were regularly attending the ante natal clinics. Furthermore, around quarter of the respondents (25.4%) had previous cesarean delivery. (51%) of the respondents who had previous CS had it in their first delivery. (90.4%) of the respondents had no medical history. Moreover, (91.9%) had no surgical history. In relation to the causes for the cesarean delivery, (36%) of them had failure of progress, while (18%) had cesarean delivery under maternal request, antepartum hemorrhage, preeclampsia, cord prolapse, abnormal Cardiotocography (CTG), multiple pregnancy and Intrauterine Growth Restriction (IUGR) represent (13%, 12%, 11%, 4%,4%,2%) respectively.

Table (2) Obstetrics Variables

Table (2) Obstetrics		
Obstetrics Variables	No	%
Gravidity		
Primigravida	12	3
Multigravida	382	97
Parity		
Primipara	83	21
Multipara	311	79
Pregnancy stages		
1st trimester	42	10.7
2nd trimester	140	35.5
3rd trimester	212	53.8
Regular attendance of ANC clinic	_ =-=	
Yes	355	90.1
No	39	9.9
Previous CS	37	7.5
Yes	100	25.4
No	100	25.4 74.6
	294	/4.6
CS in first delivery		
Yes No	51	51
	49	49
Medical history		
Yes	38	9.6
No	356	90.4
Surgical history		
Yes	32	8.1
No	362	91.9
Causes of previous CS	(100 cases only)	
Failure of progress	36	36
Abnormal CTG	4	4
Antepartum haemorage	13	13
IUGR	2	2
Maternal request	18	18
Preeclampsia	12	12
Cord prolapse	11	11
Multiple pregnancy	4	4
		ı '

Table (3)

Reasons for participants' choices for mode of delivery

The table shows that less than half (45.4%) of the respondents referred their preference to CS to the trust on the physician experience. On the other hand,(31%) reflect their preference to CS to "keep their marital relation well" have the same sexual function as before delivery". As well, (30.5%) of the respondents had no reasons to prefer CS. Likewise, (23.9%) of the respondents referred their preference to CS so that they will experience less pain. Also, (10.4%) their reason of choice is maternal or fetal medical conditions. In addition, (9.6%) had the reason that it more easy. while, (0.5%) their reason of choice is previous CS.

Regarding the reasons to refuse CS, (45.1%) were for "skin marks and scar". Whereas, (43.1%) were for "expensive". While, (31.4%) were for "prefer vaginal delivery". in addition (25.4%) were for "more complications". only (2%) were for "breast feeding problems".

With regards to "Reasons for preference of vaginal delivery", 40.6% mentioned that the recovery is faster/better, whereas, 40.1% were for no scar. There were 35.8% said it is a natural process and 34.8% were for no complications. About 24.4% were for less stay in the hospital, while, 22.3% were for less pain. There were 6.6% of them who mentioned that vaginal delivery is more easy, while, 3.8% were for not interfere with breast feeding.

The response to the preference for CS to undergo delivery, show that 59.9% do not prefer it.

Table (3) Reasons for participants' choices for mode of delivery

Reasons for choices No % Reasons for preference of CS* 2 0.5 Trust on the physician experience 179 45.4 Less pain 94 23.9 More easy 38 9.6 Keep marital relation 122 31 No reason 120 30.5 Medical reasons 41 10.4 Reasons for refuse of CS* 8 2 More complications 100 25.4 Prefer SVD 124 31.4 Skin marks 178 45.1 Breast feeding problems 8 2 Expensive 170 43.1 Reasons for preference of vaginal delivery* 11 35.8 The recovery is faster/better 160 40.6 Less painful 88 22.3 No scar 158 40.1 No complications 137 34.8 Not interfere with breast feeding 15 3.8 More easy 26 6.6 <	Table (5) Reasons for participants ci		, '
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Reasons for preference of vaginal delivery*	Skin marks	178	45.1
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It is a natural process 141 35.8 The recovery is faster/better 160 40.6 Less painful 88 22.3 No scar 158 40.1 No complications 137 34.8 Not interfere with breast feeding 15 3.8 More easy 26 6.6 Less stay in hospital 96 24.4 Preference of CS in the undergo delivery	Expensive	*	43.1
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Less painful 88 22.3 No scar 158 40.1 No complications 137 34.8 Not interfere with breast feeding 15 3.8 More easy 26 6.6 Less stay in hospital 96 24.4 Preference of CS in the undergo delivery	The recovery is faster/better		
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Preference of CS in the undergo delivery	More easy		
V (0.1	Less stay in hospital		
Yes 40.1	Preference of CS in the undergo delivery		
	Yes	158	40.1
No 236 59.9	No		59.9

^{*} Multiple choices

Qualitative findings

In order to explore the prevalence of the preferences of pregnant women regarding mode of delivery it was decided that this research should focus on identifying themes within the participants associated factors and understanding reasons for the preference. It was therefore decided that the most appropriate method of analysis would be a thematic analysis. The author in this research take a position that acknowledges the desire to incorporate experiences of the participants and the meanings they attach to them.

There are three major themes identified in the study. the first theme is "Ideas". It has three subthemes. The second theme is "Future plans". While, the third theme is "Needs".

Major Theme one. Ideas

Most of the participants declared that they preferred to deliver vaginally, their ideas related to delivery is obvious. Therefore, CS was supposed to be primarily as a medical decision based on the health condition of the mother or infant. CS was rarely viewed as an elective option that the mothers would specifically choose. The first theme 'Ideas" has three subthemes including **what the mothers know**, **perceived benefits** and **perceived problems**. Findings are supported with direct quotes from mothers' stories.

The first subtheme is **what they know**. Women shared what they knew about normal vaginal delivery and CS. For example one woman noted healing and follow-up of natural life in vaginal delivery is faster. And with normal delivery she has the chance to continue life after delivery faster without the CS pain, wound and complications". Another mother responded "In vaginal delivery there is no risk for me or my baby like in CS. Moreover, its more easy". One mother's scenario described her knowledge as "CS has more pain after delivery, more bleeding, and the mother after it can't take care of herself or her baby for a long time compare with vaginal delivery". Another mother reflected "Vaginal delivery is a natural process. It take less time to heal and return to normal life, no anesthesia and its risks". In the same line one mother mentioned "I have no reason to make CS. I

can obtain my health earlier, when I undergo vaginal delivery and will not have a number of problems related to cesarean section".

Perceived benefits

Different ideas related to benefits were noted for those women. One mother described the benefits as "In CS I suffer from less pain, I can control my pain by medications or pain relief medicine" . Another one mentioned "vaginal delivery takes less time to heal and return to normal life, no anesthesia and its risks ". One of them added "I can take care of myself and my family after few days of normal labor". Even so, one mother mentioned that "I think that CS save my babies life's."

Perceived Problems

A different experience was noted for those mothers when they talk about problems. One women noted "In normal vaginal delivery I feel that pain is out of control, my soul will come out". Another mother mentioned the opposite "In CS there are a lot of complications of wound and anesthesia. A lot of back pain". One woman's scenario described how a negative idea or problem she had as" In CS I have a lot of pain for many days". On the opposite site, one mother mentioned "In vaginal delivery no medication can help to relief pain". Another mother when she talked about her problems mentioned "With CS I should stay in the hospital for more days and I should tolerate more pain after delivery. I should pay more for physicians and anesthesiologist. I should take more medicines".

Major Theme Two. Future Plan

When the mothers talk about the future plan they mentioned "if there is no CS I will not be pregnant again. I can't tolerate this pain I required time to take the pregnancy decision again". On the other hand, one mother mentioned when she talk about her future plan about her family size " In CS I have less chance to have big family and more children". However, one mother mentioned " I want to forget my experience with normal delivery, I will make CS"

Major Theme Three. Needs

In relation to needs, the mothers mentioned a lot of needs during labor process. Mothers wanted to reduce pain as much as possible. Participants made a direct and close association between vaginal delivery and severe pain. This was especially true in the public sector where epidural anesthesia is not available for VDs. One mother mentioned when she talked about vaginal delivery pain "I want to forget". Another mother talked about her need to be secure and sure about her delivery outcome "I am afraid of the moment of childbirth but CS saved my precious babies". Conversely, one mother mentioned her need to be within natural process " why I will interfere with nature? CS is interfering with nature so no need to make it if there is no reason". in the same line one women mentioned " Just control your fear; you will pass the vaginal delivery better". Another women conclude her need to have CS as " I have no choice, I have to deliver by CS. I have hypertension and suffer from preeclampsia in all of my pregnancies".

V. Discussion

The current study was conducted to elaborate the mothers' view and reasons for preference or refuse towards caesarean section. The mixed methods analysis facilitated the exploration of women's preference of women or refusing to CS, allowing insight into how they conceptualized their preference reasons.

For the quantitative findings

In this study, the author observed that the greater part (59.9%) of women preferred to deliver vaginally. These findings were in the same line with Liu N et al (2013) who reported that CS was perceived primarily as a medical decision based on the health condition of the woman or infant^[23]. In Litorp H et al research they found that all women and health care providers considered vaginal birth in absence of medical reasons for CS, but health care providers were generally more positive towards CS than were women^[24]. Similar to the findings of Mazzoni A et al (2010) who existing a recent systematic review about women's preferences for cesarean section included thirty-eight studies of 19,403 women, found that the overall preference for caesarean section was only 15.6% and that most women prefer vaginal delivery, which is consistent with our results^[25].

In this study the associated factors was represented as, (97%) were multigravida and (79%)were multipara. Around quarter of the respondents (25.4%) had previous cesarean delivery. (51%) of the respondents who had previous CS had it in their first delivery. (90.4%) of the respondents had no medical history. In relation to the causes for the cesarean delivery, (36%) of them had failure of progress, while (18%) had cesarean delivery under maternal request, antepartum hemorrhage, preeclampsia, cord prolapse, abnormal

Cardiotocography (CTG), multiple pregnancy and Intrauterine Growth Restriction (IUGR) came later on. Our study found similarities in the mothers criteria with Lewis L et al research^[26].

In this study the results related to the reason of preferring CS found that trust in the physician experience, fear of pain and keep marital relation were the most frequently expressed reasons. Contrary to some studies which suggest that fear of pain associated with VD is positive [27-30]. Whereas women who preferred vaginal delivery felt it was the most natural mode, the recovery is faster, no scar after birth and no serious complications.

For the qualitative findings

Three major interrelated themes were identified "Ideas, Future plan and Needs".

There is a widespread ideas among the participants that healing and follow-up of natural life in vaginal delivery is faster. And with normal delivery the chance to continue life after delivery faster without the CS pain, wound and complications". another idea is vaginal delivery is more easy". Moreover, " CS has more pain after delivery, more bleeding, and the mother after it can't take care of herself or her baby for a long time compare with vaginal delivery". Another mother idea is about "Vaginal delivery is a natural process. It take less time to heal and return to normal life, no anesthesia and its risks". The findings not in the same line with Lundgren I who found that the mothers considered pain as an essential part of the delivery experience [31]. Also another study by Stern G showed that absence of pain can be reflected the same as a out of control [32].

The findings of this study related to the theme of future plan, showed that in CS there is less chance to have big family and more children. This finding is in the same line with Lui N 2013 who reported that after a CS the mothers might have to wait a lot of time to be pregnant again and also all the next deliveries will be $CS^{[23]}$.

The findings related to the theme needs of mothers, showed that reduce fear and pain are the most important need during labor. Several studies suggesting that women fear of pain associated with labor was seen positively^[27-30].

VI. Conclusion

Although a significant raise in caesarean section (CS) rates in Egypt, this is not a sign of mothers preference alone. CS rates persist to increase in spite of data that there is no related enhancement to women or babies health; to a certain extent, CS be able to raise the hazard of complications, such as maternal mortality, reproductive tract injuries. There is data that few women truly prefer CS. Preference of the mode of delivery is personal and medical in nature. This means that individual decision should be taken into consideration rendering patient centered care to the pregnant woman during labor. Also, maternal and fetal medical condition should be manage properly.

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