

Comparative Study between Assiut and Zagazig Regarding Women Preferences for Mode of Delivery

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Abstract:

Background: Currently, the rate of caesarean section has been substantially increased in developing and developed countries. To determine the factors causing such an increase it is important to determine the reasons for women's preference for vaginal delivery or caesarean delivery.

Aims: To determine women's preferences regarding mode of delivery, as well as compare between Assiut and Zagazig's preferable mode of delivery.

Methods: Across sectional, comparative study of 368 mothers were interviewed. This study was conducted in the Department of Obstetrics at Zagazig and Assiut University Hospitals, during the period from March to October 2015. Questionnaire to collect data about general characteristics and some obstetrical data about the study participant, in addition to data related to the woman's preference of mode of delivery.

The results: The mean ages of Zagazig participants were 28.9+5.3 and 30.5+5.5 years according to their preferences of vaginal delivery and caesarean delivery, respectively, while for those of Assiut group they were 31.9+8.4 and 28.6+7.5 years, respectively. The majority (94.9%) of women prefers vaginal delivery as the ideal model for delivery in Zagazig, while in Assiut, 81.5% preferred caesarean delivery.

Conclusions: This study provide a better understanding of the factors influencing the favor of the mode of delivery among childbearing women. The maternal factors and responsibility for decision were seen as an important factor influencing women's preferences for a caesarean delivery. The majority of mothers prefers vaginal delivery than caesarean delivery.

Recommendations: educate all women attending Maternity hospitals/centers about mode of delivery and give them effective counseling about advantages, disadvantages of both methods and the reasons for select each mode.

Keywords: Vaginal Delivery, Cesarean Delivery, preferences.

I. Introduction

In Egypt, during the 20th century, cesarean delivery (CD) rate reached 10.3% in the year 2000. However, in the 21st century, the rate has raised dramatically from 27.6 in 2010 to 52% in 2014. It is far exceeding the acceptable rate of 10 to 15 percent recommended by the World Health Organization (MOHP, 2014; Naeem et al., 2015). The morbidity with CD is associated with profound epidemic. Therefore, the reducing CD is a goal of numerous professional organizations and the U.S. Department of Health and Human Services (Sponget et al., 2012). So far, studies among pregnant or postpartum women demonstrate that the majority prefers vaginal delivery (VD), and their preference has been evidenced with increased possibility of achieving this goal. Recent clinical guidelines aimed at reducing the cesarean rate, failed to mention the inclusion of patient preferences in delivery mode, counseling or planning (ACOG, 2014; Wu et al., 2014).

Several studies have described a variety of factors in the selection of vaginal delivery. In the study of Black (2005) which was carried out in the UK, one of the most important determinants was the individual's inclination towards vaginal delivery, which is influenced by several factors, including interest in experiencing vaginal delivery, previous positive experiences, lack of anxiety about the safety of mother and baby, faster recovery after delivery, and fear of anesthesia.

Few qualitative studies have been carried out in Iran to investigate the conditions which influence women's decision to choose either vaginal or cesarean delivery. In a focused ethnography conducted by Latifnejad Roudsari et al. (2015), fear of vaginal delivery, personal beliefs, cultural norms and values, and social network were reported as the factors affecting the choice of cesarean delivery. Also, in 2010, Kasai, in a qualitative study of women's beliefs about mode of delivery in teaching hospitals in Brazil, showed that most women prioritized natural birth due to faster recovery after delivery. Also, the reason behind some women's inclination towards cesarean section was lack of pain during labor and the closing of the uterine tubes.

On the other hand, in a qualitative study by Zakerihamidi et al. (2015) it was reported that economic issues, cultural beliefs and values, previous experiences of childbirth, significant others, and vaginal delivery facilitators were associated with the choice of vaginal delivery. Determining the optimal delivery approach for

each pregnant woman is critical to providing high-quality, patient-centered care in obstetrics. Although VD remains the most common delivery mode, the overall CD rate reached 32.8% in 2010, including 26.4% low-risk nulliparous women and 89.9% of low-risk women with a prior CD (**Hamilton et al., 2013; United States Department of Health and Human Services, 2013**).

Significance of the study

Childbirth classes, or in other terms, childbirth education or counseling is not applied in the health care system in Egypt (**Egyptian Initiative for Personal Rights, 2010**). Consequently, pregnant women are under the threats of inadequate information, negative attitude to normal childbirth, fear of childbirth, which often implies requested cesarean delivery despite its risks on mothers and babies (**Maria et al., 2014**). Women's feelings and thoughts about cesarean delivery or vaginal delivery are varied among societies. So, this study is interested in exploring factors associated with VD and CD preferences.

Aims Of The Study

1. Identify women's preferences regarding vaginal delivery and cesarean delivery.
2. Identify factors affecting of the women's preferences for mode of delivery.

Research Questions

1. Which mode of delivery the women prefer?
2. What are the factors affecting women preference the mode of delivery?

II. Methodology

Design:

A comparative study to state the differences between upper (Assiut) and lower Egyptian (Zagazig) women regarding preferred modes of delivery.

Setting:

This study was conducted in the Department of Obstetrics at University Hospitals of Assiut and Zagazig

Sampling

Sample type:

A purposive sampling of 368 women.

Sample size:

The sample size for the study was determined by using the following formula below (**George, 2000:311, Kirkwood, 1998:192**).

$$n = pqqx \frac{(Z_{\alpha/2})^2}{e} \text{ or } n = (1 - P) x P x \frac{(Z_{\alpha}^2)^2}{e^2}$$

Whereas:

n = sample size

p = number delivered in both hospitals = 37% = 0.37

q = number delivered out of hospitals = 63% = 0.63

e = standard error = 5% = 0.05

$Z_{\alpha/2}$ = Z value of 95% confidence = 1.96 from the Z-table

Therefore, the total sample size required to be 368 participants who delivered via caesarean delivery and vaginal delivery mode. The collected data contained 194 women from Zagazig University Hospital and 174 women from Assiut University Hospital.

Sample technique:

All women who attend to the postpartum care at the hospitals with the following criteria:

Inclusion criteria: (1) Age: 18 years or more, (2) Gestational age: A live fetus after 37 weeks of gestational age, (3) Singleton pregnancy, (4) Those with at least one birth, and (5) No difficulty in communication and accepting to participate in the study.

Tools of data collection:

The participants were interviewed by the researchers. The questionnaire was adapted from other studies done on women's preference for mode of delivery (**Liu et al., 2013**). It included three parts.

1. **Part (I): Characteristics of women**, such as: age, place of residence, level of education, employment status and current occupation.
2. **Part (2): Obstetrics history** includes: gravidity, parity, previous mode of delivery, and history of stillbirth.
3. **Part (3): Women preferences regardless their delivery experience and factors affecting of childbirth preference** that include: Reasons for preferred CD or VD, the ideal way of delivery, sources of information on modes of delivery, pregnancy follow up, place of delivery and preferred delivery mode for the next. Various options were given to explore the reasons why they wanted a specific mode of delivery.

Validity

The questionnaire was evaluated by three experts of the obstetric and gynecology department to determine whether the items in the questionnaire had been prepared in consistency with the aim of the study, and in light of its recommendations.

Ethical considerations:

The researchers obtained a letter from the Dean of Faculty of Nursing to the hospital responsible administrative authority to collect the necessary data. Informed consent was also obtained from every participant after explaining the aim of the study. Additionally, women's privacy was considered during collection of data.

Pilot study:

A pilot study was conducted on 10% (40 women) of the total sample to find out the clarity of the study tools, and the time needed to fill these tools. Those who participated in the pilot study were excluded from the main study sample.

Field of work

1. The period of the study was within nine months. It started from the beginning of March to the end November 2016.
2. The researchers visited the department in the morning two days/week. Furthermore, each interview took about 20 minutes.
3. Data were collected after approval from the administrator of the hospital and Head of Nursing, and women. Women provided with a verbal explanation about the study aim, had the opportunity to ask questions about their participation, and they agreed to participate in an interview.

Statistical Methods:

In the analysis of data, the Statistical Package for the Social Sciences (SPSS), version 20 was used. Descriptive data were represented as numbers and percentages. In the statistical analysis of the data, histogram charts were performed. P-value < 0.05 was accepted to be statistically significant.

III. Results

Table (1): Shows the distribution of the studied women according to their personal characteristics. It reveals that the women who preferred CD in Zagazig the mean age of the participants was 30.5 ± 5.5 years, from rural areas (89.5%), had a secondary education (42.1%), unemployed women (86.8%) and the job not related health field (71.1%). Meanwhile, the women from Assiut who prefer CD the mean age was 28.6 ± 7.5 years, from rural areas (63%), illiterate and university educate (33.3% & 33.3%, respectively), employed (66.7%) and the job not related health field (70.4%). There is a statistically significant difference was observed among both group regarding age and place of residence according to comparison of CD preference (Assiut & Zagazig) groups, while, level of education and employment status according to comparison of CD and VD preference (Assiut & Zagazig) groups.

Table (2): Reveals the preferred delivery mode in relation to an obstetric history of women in both groups. In Zagazig, more than two third (69.5%) of women who delivered previously by VD were preferred VD. While, 71.1% of them who delivered previously by CD were preferred CD. In Assiut, the highest percentage (71.7%) of women who delivered previously by VD were preferred VD. Moreover, 81.5% of them of women who delivered previously by CD were preferred CD. Consequently, there is a statistically significant association between history of stillbirth and preferred mode of delivery ($P_1=0.025$ & $P_2=0.001$).

Table (3): Shows the comparison between Zagazig & Assiut groups related to factors affecting on women's mode of delivery preferences. In Zagazig group: regarding vaginal delivery as an ideal delivery mode, there were 94.9% Versus 26.3% and 5.1% Versus 73.7% of VD and CD respectively. In Assiut group: 80% Versus 18.5% and 20% Versus 81.5% of VD and CD respectively, with a statistical significant difference between two groups at ($P_1=0.001$ & $P_2=0.001$). Regarding women's sources of information about modes of deliveries in Zagazig group there was 42.4% vs. 34.2% of women mentioned obstetricians, followed by previous birth

experience 37.3% vs. 26.3% of VD and CD. In Assiut group, 28.3% vs. 55.6% mentioned obstetricians, followed by previous birth experience 31.7% vs. 29.6% of VD and CD. From the table there are a statistically significant relationship between sources of information on modes of delivery and preferring mode of delivery ($P_1=0.005$ & $P_2=0.001$).

Concerning the relation between pregnancy follow up and preferring mode of delivery. In Zagazig group: there was 42.4% and 39.5% of VD and CD respectively. In Assiut group: 45% and 66.7% of VD and CD respectively, with a statistical significant difference between two groups at ($P_1=0.002$ & $P_2=0.001$). As regard the place of delivery, In Zagazig group: the majority 45.8% and 42.1% of VD and CD respectively, was governmental hospitalized. While, In Assiut group: 50% and 63% of VD and CD respectively, were private clinic, with the highly statistically significant relation between the two groups at ($P_1=0.001$ & $P_2=0.001$).

Figure (1): Illustrates the percentage of the distribution of the studied women according to their preferences about the delivery mode for next deliveries. In Zagazig: the most (88.1%) of women who delivered vaginally were preferred VD as mode of delivery for the next delivery, while 92.1% of them who delivered by CD were preferred CD as mode of delivery for next delivery. In Assiut group: There was 80.0% and 88.9% of women delivered by VD and CD were preferred VD and CD as mode of delivery for the next delivery, respectively with no statistically significant difference at $P_1=0.086$, and $P_2=0.532$.

Figure (2): Displays the comparison between Zagazig and Assiut due to reasons for women's preferences for vaginal delivery. For its natural way, there were 33.3% vs. 28.9%; for safety for baby 11.5% vs. 2.1%. Regarding safety for mother, 9.2% vs. 12.4% for more healthy 23.0% vs. 23.7%. For shorter healing process: 18.4% vs. 16.5% and lastly for postpartum painless 13.8% vs. 12.4% with a statistically significant difference at $P=0.027$.

Figure (3): Illustrates the distribution of the studied mothers according to their reasons for preference of caesarean delivery. The preferences due to fear and pain of vaginal delivery there were 12.6% vs. 8.2%, followed by safety for baby, there were 10.3% vs. 15.5%. The other variables, as healthier for the baby, for tubal ligation, chronic diseases, less overall pain, for less vaginal trauma, and for previous negative experience with vaginal delivery ranged from 4.6 to 1.0%. The relationship reflected statistically significant differences at $P=0.035$.

Table (4): Shows responsibility of making the decision on mode of delivery. Through the comparison between Zagazig VD and CD versus Assiut VD and CD reflected that 54.2% and 55.3% versus 51.7% and 63% mentioned health care providers were the responsible for the decision making respectively, with statistically significant difference at $P_1=0.30$. Regarding maternal health factors comparison of Zagazig VD and CD versus Assiut VD and CD were 49.2% and 21.1% versus 50.0% and 55.6%, respectively with statistically significant differences at $P_1=0.002$ and $P_2=0.01$. Natural way of delivery, Zagazig VD and CD versus Assiut VD and CD reflected that 64.4% and 36.8% vs. 60.0 and 29.6% with statistically significant differences at $P_1=0.022$ & $P_2=0.004$. Regarding the timing of delivery and women right to choose Zagazig VD and CD versus Assiut VD and CD reflected that 35.6% and 26.3% vs. 15% and 29.6% with statistically significant differences at $P_1=0.001$.

IV. Discussion

There are unique trust and expectations among women related to childbirth. However, the experiences of other women may be significant to their preferences to methods of delivery, as well as expectations of mothers for themselves and their babies. Therefore, it is important to reveal women's expectations from childbirth and to determine women's basal knowledge, preferences and related factors to the type of delivery in order to give necessary information, support and care in this process. In fact, type of previous delivery may be an important determinant influencing on women's preferences of delivery (**Pang et al. 2008**).

The findings of the current study indicated that most of Zagazig group and the majority of Assiut group were aged 20-<35 years were found to prefer VD and CD, respectively. In their study **Karlström et al. (2011)** supported the current results as they reported that preference of CD is often associated with maternal age. This might be due to that women's who prefer a vaginal delivery than cesarean section their fear from obstetric risks of CS, e.g., wound pain and risk of anesthesia in Zagazig. However, In Thailand, mostly older women prefer to have a CD as detected by **Rachatapantanakorn and Tongkumchum, (2009)**. However, a cross-sectional study carried out by **Ajeet et al. (2011)** found that there were no differences in age category between women who desired CD versus women who desired VD.

As regards the association between residence to preferred mode of delivery, the current findings noted that most of the studied women living in rural areas in Zagazig, preferred CD, but in Assiut, an equal percentage representing less than two third preferred both types of delivery. This study is incongruent with that of a study carried out by finding is inconvenient with a study reported by **Farzana and Kabir (2014)** in Bangladesh and showed that the women from the urban areas prefer CD most likely 12.964 times higher than the women from the rural areas which are performed in different public and private hospitals. In addition, advanced urbanization is a cause of high rates of CD which reported by **Badakhsh and Alizadeh (2000)** in Iran. Therefore, in the current

study, the aim of population-based was to evaluate the frequency of mothers' preferences toward the mode of delivery and the factors affecting this tendency.

According to the obtained results in the present study, relatively high percentages of pregnant women having primary and secondary levels of education preferred to be delivered vaginally at Zagazig compared to those with university or above educational levels and illiterate ones at Assiut. Similarly, **Alimohammadian's (2007)** study done in Iran, which reported a significant relation observed between requests for CS and educational level. In the same line, a study performed by **Klemetti et al. (2010)**, in rural parts of China showed that the rate of CS is increased as educational status increases. Likewise, studies in Taihe Hospital, Shiyao by **Zhao and Chen (2013)**, indicated that women with higher educational status preferred cesarean delivery more than those with lower educational status. However, **Maharlouei et al. (2013)**, from Italy agreed with the present study findings as they reported that women with lower education were more willing to undergo CD. Therefore, the level of education plays a role in choosing the mode of delivery besides women were worried because VD could give harm to genital area. Incongruent with, the findings of this study, **Angeja et al. (2006)**, reported that the educational status of the women did not affect preferences for the delivery type.

The current study revealed that, employment status of the women had affected the choice of delivery mode in Assiut as compared to Zagazig ($P_1=0.001$, $P_2=0.001$). These findings are consistent with the results of several studies as that conducted in Iran by **Alimohammadian (2007)**, where a significant relation was detected between the mother's employment status and requesting a CD. As well as in a study of **Sayiner et al. (2009)** they reported that the employment status of the women was found to have no effect on their preference regarding the type of delivery, and **Farzana and Kabir, (2014)** mentioned that the working mothers were found to prefer CD more likely 8.341 times higher than the housewife.

Concerning obstetrical history of the studied women and preferences for mode of delivery in this study, the current study findings are inconsistent with these findings a study held in the UK by **Amoa et al. (1997)** which reported that most of CD sample were from primigravida. Additionally, results revealed that there was an insignificant relationship between women's preferences for mode of delivery and parity ($P_1=0.374$ & $P_2=0.298$). This finding was similar to that reported by **Riberio et al. (2005)** in the USA in which most mothers were multiparous.

According to the results of this study, majorities representing almost percentages in Zagazig and in Assiut of parous women preferred to be delivered by vaginally and cesarean. In Italy, **Torloni et al. (2013)** showed that one in five of Italian women preferred to have C-section and the factors associated with this choice were nulliparous. In two studies conducted in Hong Kong and Norway, 16.8% and 2.4% respectively of nulliparous women mentioned they would prefer for their baby to be delivered by cesarean (**Fuglenes et al., 2011**). In **Mohammad et al. (2009)**, who conducted a study in south of Iran (Shiraz), 50.7% of nulliparous women preferred CD. As well, in another study of **Mohammad et al. (2009)** carried out in northwest of Iran (Maragheh), 29.6% of the nulliparous women preferred CD.

The present study indicated that an insignificant difference was observed regarding women's preferences for mode of delivery a correlation between the previous mode of delivery and the women's preferences for mode of delivery ($P_1=0.712$ & $P_2=0.174$). Women who are delivering by the previous mode of delivery reported that they would prefer the same mode of delivery. In Nagpur, India **Ajeet et al. (2011)** they showed that a history of previous CD was correlated with higher preferences for CD. As well, **Mazzoniet al. (2011)**, reported that women who experienced a cesarean section are more likely to prefer a surgical delivery than women without previous cesarean section. According to these results, more investigations are needed to be done to investigate, the relation between the previous mode of delivery and preference for mode of delivery.

The current study revealed a correlation between history of still birth and the women preferences for mode of delivery ($P_1=0.025$ & $P_2=0.001$). **Pang et al. (2008)**, highlighted that an unpleasant experience from a previous complicated birth leading to an emergency cesarean partially explains such preferences.

A significant finding obtained in the current study was that, most of the women thought that the ideal delivery mode was a vaginal delivery of Zagazig group. On the other hand, the majority of the women in Assiut group thought that the ideal delivery mode were cesarean delivery and vaginal delivery. In Turkey, **İlhan et al. (2015)** in their very recent study revealed that, 90% ($n=90$) of women reported vaginal delivery was the ideal mode of delivery; 10% ($n=10$) had decided on cesarean delivery before having a vaginal birth.

A significant relationship between the sources of information about modes of delivery and women's preferences for mode of delivery was observed in the current study. More than two fifths in Zagazig, and in Assiut relied on their obstetrician, as the main source of information that affects the preferences for the mode of delivery, and previous birth experience was also reported as frequently used sources. These findings were similar to those of a cross sectional survey, in a study performed in Italy, by **Regina et al. (2013)**, which reflected that obstetricians were the most important source of influence on women's preferences for mode of delivery, followed by friends and relatives. This highlights the important role of obstetricians in the process of a woman's preference for mode of delivery. Physician's opinions on the mode of birth may be more powerful for women.

The present study indicated that a relatively high proportion in Zagazig, and in Assiut of the studied women who attended for follow up, at private clinics preferred to be delivered by vaginally and CS. Women in private clinics have an opportunity to express their wishes freely and comfortably than in other hospitals. These findings were in accordance with those of a Ghanaian teaching hospital, where the study was done by **Adageba et al. (2008)** among women attending the hospital's antenatal clinic, in which approximately 93% of them preferred vaginal deliveries.

Regarding the relationship between place of delivery and preference for mode of birth, in Zagazig, less than half of women admitted to the governmental hospital were found to prefer delivery by vaginal mode. The reason for preferring a hospital delivery was that the hospital was safe and secure. However, in Assiut, less than two-third of women admitted to the private clinics, preferred CD. The reasons reported by women who delivered at private clinics are due to social support and privacy. Likewise, in Bangladesh, the women admitted into a private hospital were found to prefer CD more than the women admitted in the governmental hospital (**Farzana and Kabir, 2014**).

Moreover, most of women under study stated that they would prefer cesarean section for their next delivery. Recently, in Turkey, **İlhan et al. (2015)**, found that after vaginal delivery, sixteen percent of all women reported that they would prefer a cesarean delivery for their next pregnancy.

In the present study results showed that the most significant reasons for preferring vaginal delivery were that it was considered a natural way of delivery, followed by the statement "more natural and healthy", then shorter postpartum healing process. These findings were consistent with those of a cross-sectional study undertaken in an urban health training center field practice area of a tertiary care hospital at Nagpur by **Ajeet et al. (2011)** which observed that most women preferred VD as it is a natural way to deliver and safer way to deliver. In Brazil **Kasai et al. (2010)** studied women's beliefs about delivery and reported that belief in early recovery following normal birth is the main reason for giving priority to VD. Cesarean delivery causes a delay in both mothers' recovery and mother-baby interaction. Thus, increased medical care needs of mothers and babies following the cesarean delivery resulting in high economic costs.

Women's opinion for preferring VD was due to that VD was a healthier and more natural way of giving birth. In the study conducted by **Pevzner et al. (2011)**, results detected that of most of participants found VD as healthy for mothers, followed by a majority, who found it a healthy for babies and slightly more than a third found that the natural route is the best. Seventy-six percent of women in a study by **Dursun et al. (2011)**, stated that VD did not indicate a risk for anesthesia and operation. Therefore, it is important for healthcare professionals to train and inform women about the other unknown advantages of VD, emphasizing its importance.

Whereas, safer for the baby, fear or pain of VD, and repeat cesarean section were important reasons associated with CD preference. Increasing maternal awareness about pain-relief methods during labor in hospitals will consequently reduce maternal fear of pain and encourage mothers to prefer vaginal delivery. Similarly, a qualitative study done by **Fenwick et al. (2010)**, on 14 women in Australia indicated that women who had cesarean section in their first pregnancy in the absence of a known medical indication perceived that their preference for cesarean was safe and responsible.

Findings in the current study, in the studied group of Zagazig indicated that the women's preference for cesarean delivery was due to: labor pain and fear of vaginal delivery, the fact that a cesarean was their previous mode of delivery, the opinion that it would be healthier for the baby, and having less overall pain. While, in Assiut group, it was due to safer for the baby, and having less vaginal trauma. In line with these findings, in Italy the study of **Torloni et al. (2013)** reported that the main reason for preferring cesarean delivery was fear of pain. Another study carried out in Sweden by **Wiklund et al. (2007)** compared two groups of pregnant women, regarding their preference for C-section or vaginal delivery. The findings revealed that anxiety for the health of their baby and their own life was the main reason for selecting CD.

On the other hand, C-section is considered a painless and simple procedure, which is usually preferred due to fear of labor pain during vaginal delivery. Few qualitative studies have been conducted in Iran by **Latifnejad-Roudsari et al. (2014)**, which explored the conditions which influence women's cultural beliefs towards the mode of birth and found that cultural norms, values and social network are the factors encouraging the choice of CD.

In the present study, various factors influenced women's decisions toward the mode of delivery. Regarding the responsibility of decision making from health care providers, this factor played an important role in the maternal decision in choosing CD. However, women who preferred vaginal delivery their decision were influenced by maternal and newborn health, and women right to choose was identified as an important factor in women decision making in Zagazig. These findings were consistent with the findings reported by **Dursun et al. (2011)**, **Pevzner et al. (2011)**, which reflected that the majority of women considered VD to be a safer mode of birth for the mother (81.7%) and the neonate (72.8%). As identified by the risk of surgery and anesthetic drugs passing to the neonate in CD is also a consideration for women who prefer VD.

V. Conclusion

The results of this study provide a better understanding of the factors influencing the preference of the mode of delivery among childbearing women. However, high rates of cesarean deliveries will be reduced if the appropriate measures are taken to eliminate the negative effects of the fear of labor pain. Health care providers and pregnant women should be trained about techniques for labor pain relief, labor fear, coping methods, and implementing these methods may help women efficiently to manage the labor pain and fear. Although more women in this study preferred VD, there is an evidence of a growing preference for CD.

VI. Recommendations

The comprehensive information on the benefits and severity of the different modes of delivery, need to be increased to include birth procedures. Childbearing women should have a right to receive comprehensive and unbiased information from health professionals so that they can make an informed choice on the mode of birth which is more suitable for them.

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Tables & Figures

Table (1): Distribution of the studied women according to their some personal characteristics (n = 368)

Items	Zagazig (n=194)		Assiut (n=174)		P-value
	Prefer VD n =118	Prefer CD n =76	Prefer VD n =120	Prefer CD n =54	
	n (%)	n (%)	n (%)	n (%)	
Age (years)					P1=0.001** P2=0.034*
<20	0	0	4(3.3)	4(7)	
20-35	108(91.5)	62(81.6)	82(68.3)	44(81.5)	
35-45	10(8.5)	14(18.4)	34(28.3)	6(11.1)	
Mean ± SD	28.9±5.3	30.5±5.5	31.9±8.4	28.6±7.5	P1= 0.001** P2= 0.098
Place of residence					P1= 0.314 P2= 0.001**
Rural	82(69.5)	68(89.5)	76(63.3)	34(63)	
Urban	36(30.5)	8(10.5)	44(36.7)	20(37)	
Level of education					P1=0.033* P2= 0.001**
Illiterate	18(15.3)	6(7.9)	36(30)	18(33.3)	
Primary school	28(23.7)	32(42.1)	24(20)	8(14.8)	
Secondary school	36(30.5)	32(42.1)	24(20)	10(18.5)	
University or post	36(30.5)	6(7.9)	36(30)	18(33.3)	
Employment status					P1= 0.001** P2= 0.001**
Employed	36(30.5)	10(13.2)	74(61.7)	36(66.7)	
Unemployed	82(69.5)	66(86.8)	46(38.3)	18(33.3)	
Type of occupation					P1= 0.269 P2= 0.961
Non health related	100(84.7)	54(71.1)	96(80)	38(70.4)	
Health related	8(6.8)	10(13.2)	14(11.7)	8(14.8)	
Physician	0	2(2.6)	2(1.7)	2(3.7)	
Nurse	10(8.5)	10(13.2)	8(6.7)	6(11.1)	

Note: VD: Vaginal delivery.

CD: Cesarean delivery.

P1: P-Value according to comparison of VD preference (Assiut & Zagazig) groups

P2: P-Value according to comparison of CD preference (Assiut & Zagazig) groups

Table (2): Distribution of the studied women according to their obstetric history (n = 368).

Items	Zagazig (n =194)		Assiut (n = 174)		P - Value
	Prefer VD n =118	Prefer CD n =76	Prefer VD n =120	Prefer CD n =54	
	n(%)	n (%)	n (%)	n (%)	
Gravidity					
Primigravida	22(18.6)	12(15.8)	24(20)	12(22.2)	P1=0. 016* P2=0. 234
2-4	84(71.2)	58(76.3)	68(56.7)	34(63)	
≥ 5	12(10.2)	6(7.9)	28(23.3)	8(14.8)	
Parity					
Nulliparous	22(18.6)	20(26.3)	28(23.3)	10(18.5)	P1=0. 374 P2=0. 298
Parous women	96(81.4)	56(73.7)	92(76.7)	44(81.5)	
Previous mode of delivery					
VD	82(69.5)	22(28.9)	86(71.7)	10(18.5)	P1=0. 712 P2=0. 174
CD	36(30.5)	54(71.1)	34(28.3)	44(81.5)	
History of still birth					
Yes	54(45.8)	44(57.9)	38(31.7)	16(29.6)	P1=0. 025* P2=0. 001**
No	64(54.2)	32(42.1)	82(68.3)	38(70.4)	

VD: vaginal delivery.

CD: cesarean delivery.

P1: P-Value according to comparison of VD preference (Assiut & Zagazig) groups

P2: P-Value according to comparison of CD preference (Assiut & Zagazig) groups.

Table (3): Distribution of the studied women according to factors affecting their preferences about mode of delivery (n = 368).

Items	Zagazig (n =194)		Assiut (n = 174)		P-Value
	Prefer VD n =118	Prefer CD n =76	Prefer VD n =120	Prefer CD n =54	
	n(%)	n (%)	n (%)	n (%)	
Ideal delivery mode					
Vaginal delivery	112(94.9)	20(26.3)	96(80.0)	10(18.5)	P1=0.001* P2=0.001*
Caesarean delivery	6(5.1)	56(73.7)	24(20.0)	44(81.5)	
Sources of information on modes of delivery					
Obstetrician	50(42.4)	26(34.2)	34(28.3)	30(55.6)	P1=0.005* P2=0.001*
Nurses	8(6.8)	18(23.7)	6(5.0)	2(3.7)	
Relatives	18(15.3)	16(21.1)	42(35.0)	2(3.7)	
Friends	18(15.3)	0	8(6.7)	4(7.4)	
Previous birth experience	44(37.3)	20(26.3)	38(31.7)	16(29.6)	
Internet/books	4(3.4)	0	4(3.3)	2(3.7)	
Pregnancy follow up					
Governmental Hospital	48(40.7)	24(31.6)	62(51.7)	18(33.3)	P1=0.002* P2=0.001*
Private clinics	50(42.4)	30(39.5)	54(45.0)	36(66.7)	
University hospital	20(16.9)	22(28.9)	4(3.3)	0(0.0)	
Place of delivery					
Governmental Hospital	54(45.8)	32(42.1)	56(46.7)	20(37.0)	P1=0.001* P2=0.001*
Private clinic	38(32.2)	18(23.7)	60(50.0)	34(63.0)	
University hospital	26(22.0)	26(34.2)	4(3.30)	0	

VD: vaginal delivery.

CD: cesarean delivery.

***P1:** P-Value according to comparison of VD preference (Assiut & Zagazig) groups

***P2:** P-Value according to comparison of CD preference (Assiut & Zagazig) groups.

Figure (1): Distribution of the studied women according to their preferences about mode of next delivery.

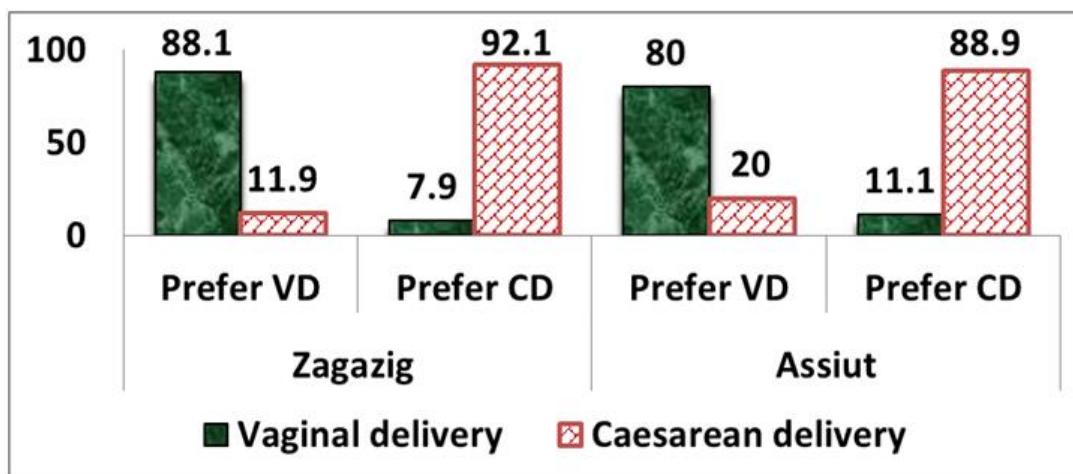


Figure (2): Distribution of the studied women according to their reasons for preference of vaginal delivery.

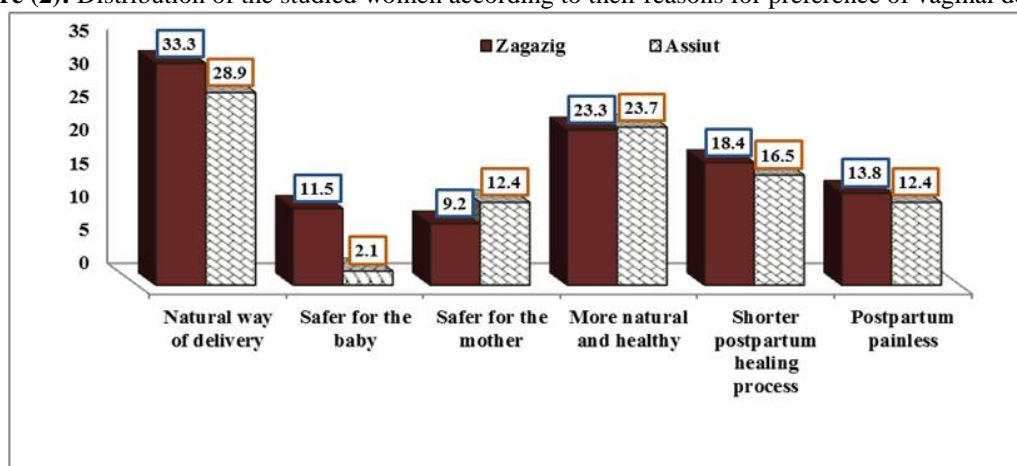


Figure (3): Distribution of the studied women according to their reasons for preference of caesarean delivery.

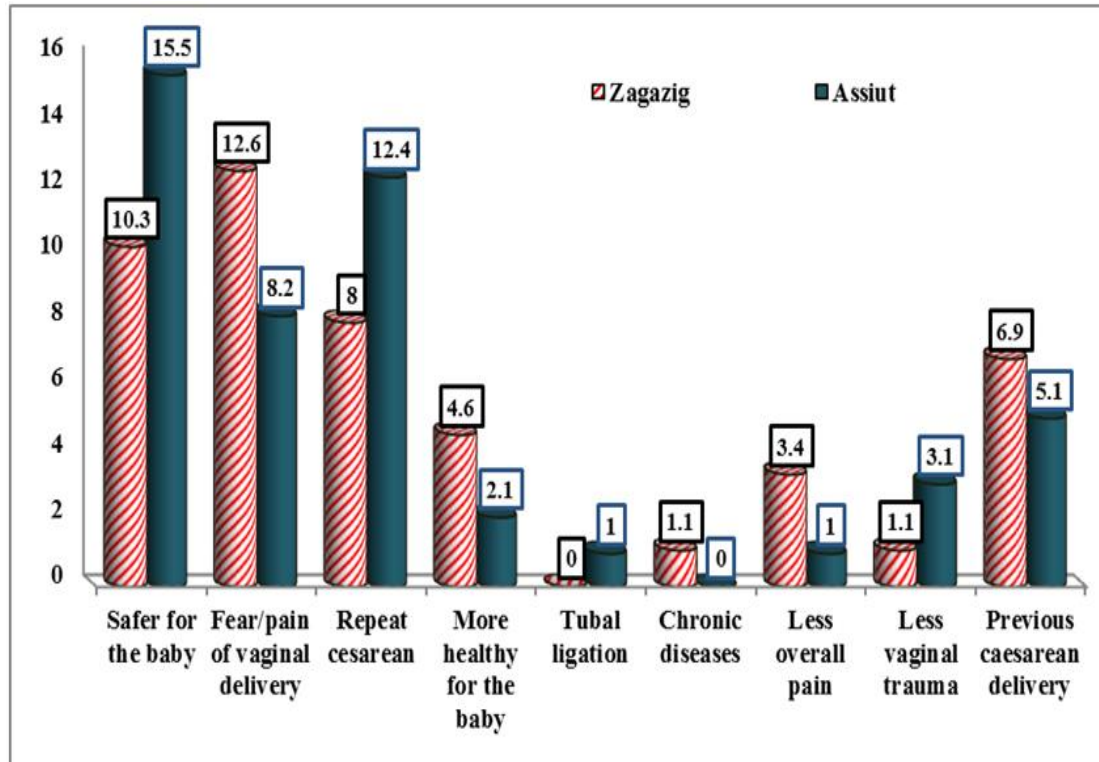


Table (4): Distribution of the studied women according to their making the decision about mode of delivery (368).

Items	Zagazig (n =194)		Assiut (n = 174)		P-Value
	Prefer VD n =118	Prefer CD n =76	Prefer VD n =120	Prefer CD n =54	
	n (%)	n (%)	n (%)	n (%)	
Responsibility for decision					
Mothers	24(20.3)	8(10.5)	14 (11.)	29(3.7)	P1=0.356 P2=0.022
Family member	22(18.6)	18(23.7)	12 (10.)	4(7.4)	
Spouses	10(8.5)	6(7.9)	6 (5.0)	10(18.5)	
Health care providers	64(54.2)	42(55.3)	62 (51)	34(63.0)	
Baby's factors					
Health of the newborn	74(62.7)	34(44.7)	58(48.)	30(55.6)	P1=0.030 P2=0.325
Birth trauma to the newborn	12(10.2)	8(10.5)	6(5.0)	2(3.7)	
Respiratory trauma to the newborn	6(5.1)	0	8(6.7)	10(18.5)	
Newborn's birth presentation	10(8.5)	10(13.2)	20 (16.)	6(11.1)	
Large baby	2(1.7)	14(18.4)	12 (10.)	8(14.8)	
Twins/triplets	6(5.1)	8(10.5)	14(11)	6(11.1)	
Maternal factors					
Maternal health	58(49.2)	16(21.1)	60 (50)	30(55.6)	P1=0.002 P2=0.010
Advanced age for childbirth	12((10.2)	12(15.8)	8 (6.7)	4(7.4)	
Labor pain	30(25.4)	22(28.9)	30(25)	8(14.8)	
Unightly abdominal scars	2(1.7)	4(5.3)	2(1.7)	0(0.0)	
Worry about tearing of the perineum	12(10.2)	16(21.1)	6 (5.0)	8(14.8)	
Possible better sexual satisfaction	4(3.4)	0	0	4(7.4)	
Social factors					
Natural way of delivery	76(64.4)	28(36.8)	72(60.)	16(29.6)	P1=0.022 P2=0.004
Faster/more convenient mod delivery	38(32.2)	42(55.3)	26(21)	30(55.6)	
Certainty about the timing of the delivery					
Better planning for maternity leave	30(25.4)	12(15.8)	34(28.)	16 (29.6)	P1=0.001 P2=0.337
Better planning for paternity leave	14(11.9)	4(5.3)	10(8.3)	6 (11.1)	
Medical insurance coverage	8(6.8)	16(21.1)	30(25.)	10 (18.5)	
Choosing an auspicious date	6(5.1)	12(15.8)	8(6.7)	6 (11.1)	
Women should have the right to choose	42(35.6)	20(26.3)	18(15.)	16 (29.6)	