

ANALYZING THE EFFECTIVE FACTORS OF CHOOSING THE DELIVERY METHOD OF THE PRIMIPAROUS PREGNANT WOMEN ATTENDING TO KHORRAMABAD'S ASALIAN HOSPITAL IN 2014

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ABSTRACT

When vaginal delivery endangers the life of the mother or the fetus, cesarean section can be used. But nowadays, CS rates have increased among pregnant women and they choose the delivery method, while in many cases it is not necessary to be performed. So this study is done in order to analyze the effective factors for choosing the delivery method of the primiparus pregnant women of Khorramabad County. This cross-sectional study was conducted on 200 primiparous women attending to the Asalian Hospital of Khorramabad in 2014. Information was gathered by self-made questionnaire which was validated by experts and included demographic information and questions about the reasons for choosing cesarean section or vaginal delivery. The mean age of the study population was 23.5 ± 4.6 years. The prevalence of cesarean section was 68%. Major reasons declared by mothers in the cesarean group were fear of vaginal delivery pain (86%), concerns about vaginal delivery complications (57.4%) and the recommendation of friends and their delivery method (56.6%). And in the vaginal delivery group, the most common reasons included fear of cesarean section (51.6%), the recommendation of the physician (46.9%), and the recommendation of friends and their delivery method (39.5%). According to the results of this study, fear of pain was the major reason for choosing cesarean section. It is recommended that women be trained and informed about the risks and benefits of each type of delivery.

Keywords: *Vaginal Birth, Cesarean Section, Primiparous Women, Khorramabad*

INTRODUCTION

Cesarean is the removal of the placental, fetus and membranes by abdominal and uterine incision (Mohamadbeigi *et al.*, 2009). This method is the best choice in emergency situations when the life of the mother and fetus is endangered. Compared to vaginal delivery, cesarean section is more modern and that's the reason why some mothers choose it. Meanwhile in developed societies many efforts are done to reduce the cesarean section and delivering the babies vaginally (O'Dwyer *et al.*, 2012; Ali *et al.*, 2003). After increasing rates of cesarean section in recent years, the rate of vaginal delivery as the preferred method of delivery has declined (Arjmandi *et al.*, 2007). Findings suggest that the rate of cesarean section has increased in developed and developing countries over the past twenty years; the rate of cesarean section in the developed countries is reported between 2.6 to 36 and the average of 21 percent (Jackson *et al.*, 2012). This is not due to the urgency of doing it but it's because cesarean section has become a way that helps reducing labor pain (Bahonar and Shabani, 2010). Nowadays the probability that a woman will undergo a cesarean delivery is 3 times more than of past 20 years (Shariat *et al.*, 2002).

The older maternal age at the first pregnancy, doing the cesarean section in breech cases, reducing the use of forceps vacuum, the increase in rate of induction of labor, concerning about the damage done to the pelvic floor muscles and the use of fetal heart monitoring were cited as reasons for the increase in cesarean (Moayed and Sohrabi, 2011).

The World Health Organization considers 10-15 percent as the acceptable rate for cesarean and announced that there is no justification for increasing it (O'Dwyer *et al.*, 2012; Sharifirad *et al.*, 2009). Rate of cesarean in the world is about 10 to 30 percent. Currently in our country, about 50 to 65 percent of deliveries are done by cesarean method (Mohammaditabar *et al.*, 2009). More than 70 percent of Iranian women are willing to perform cesarean because of some scientifically invalid causes and 92

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percent of cases are due to the fear of labor pain and complications of vaginal delivery (Abedian *et al.*, 2010).

The results of studies in 1999 and 2010 reported that the cesarean rate in Shahrood County respectively was 50.68 and 53.8 percent (Bolbol *et al.*, 2000; Chaman and Ajami, 2011). The rate of cesarean section was 50.2 percent in Hamedan (Moeini *et al.*, 2011), 51.7 percent in Daamghan (Bahonar *et al.*, 2010), 64.3 percent in Guilan (Moayed and Sohrabi, 2011), 49.8 percent in Gorgan (Tabandeh and Kashani, 2005), 66.4 percent in Shiraz (Mohamadbeigi *et al.*, 2009), 44 percent in Tehran (Mohammaditabar *et al.*, 2009) and 66.5 percent in Babol (Shariat *et al.*, 2002).

The studies conducted in developed countries show increase in cesarean rate from 2 percent in 1950 to over 20 percent till now. Cesarean section rates in United States, Australia, Canada and England is reported between 28.8-32.3 percent (Bayes *et al.*, 2012; Laughon *et al.*, 2012). The cesarean rate in United States is reported 5.5 percent in 1970, 24.7 percent in 1988, 30.5 percent in years 2002 to 2006 and 31.8 in 2007 (18). In 2005, cesarean section rate was 19.1 percent in Denmark (Betrán *et al.*, 2007). In Ireland the cesarean rate has reached from 14.1 in 1990 to 26.5 in 2009 (O'Dwyer *et al.*, 2012). In China, the cesarean delivery rate has increased from 6 to 26 percent between 1998 and 2007 (Long *et al.*, 2012). Most frequently, the fear of vaginal delivery, doctor's advice, insurance coverage and friends' recommendations are some reasons for the increase in cesarean section rates.

Being cost effective, shorter duration of hospital stay, lower risk of infection, lack of necessity to anesthesia and less bleeding are some benefits of vaginal delivery toward cesarean approach (Besharati *et al.*, 2011). Wound infection, pulmonary embolism, pelvic infections, lung infections, bleeding, urinary tract infection, transfusion, injury to other organs, venous thrombosis, the possibility of removal of the uterus, anesthesia complications, psychological complications and the risk of development of placenta previa in subsequent pregnancies, increased rates of infertility and ectopic pregnancy are some of common complications of cesarean and it also increases incidence of maternal and infant sickness, morbidity and mortality (Mohammaditabar *et al.*, 2009).

The risk of maternal death in emergency cesarean delivery is 8 times more than vaginal delivery (Negahban and Ansari, 2008). Due to the increasing rate of cesarean delivery and also considering the role of women in choosing the method of delivery, this study was done with the aim of identifying the effective factors influencing the choice of method of delivery in primiparous pregnant women to take a step toward improving the maternal and neonatal health.

MATERIALS AND METHODS

Methodology

This cross-sectional study was conducted on 200 primiparous women attending to the Asalian Hospital of Khorramabad in 2014 whom were chosen by the accessible methods. These patients had referred for pregnancy care.

Data were collected using a checklist consisting of demographic characteristics (age, occupation, and education, place of residence, income, and age and education level of husband) and separately the options of effective factors influencing choice of delivery.

Factors related to vaginal delivery included fears of vaginal delivery, suggestions of mother, husband, doctor and friends and concerns about complications of vaginal delivery and the factors related to cesarean included fear of cesarean section, suggestions of mother, husband, friends and physician and concerns about complications of cesarean delivery.

Finally, after collecting data using descriptive statistics (frequency percentage, mean and standard deviation), demographic information and options of effective factors for choosing the type of delivery were described within the parameters above and the Chi-Square was used in order to compare the groups. A significance level less than 0.05 were considered and the data were analyzed using SPSS software.

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RESULTS AND DISCUSSION

Findings

In this study, a total of 200 questionnaires were completed. The mean age of the participants was 23.5± 4.6years. 38% of participants were between 21 and 26 years old, youngest participant was 15 and the oldest was 42 years old. The educational level of vast majority of participants was diploma (41%). 10.5 percent of them had high school education (Table 1). 68% of them had chosen cesarean delivery. 61.5% of participants in the study, were housewives, 78.5% were city residents, the husbands of 46.5% of those women were between 26-30 years, 48% of their husbands had associate degree in education and 54% of them had 0.5 to 1 million of income. Distribution of demographic characteristics of participants in the study is detailed in Table 4-1.

Type of variable	Absolute frequency (Number)	The relative frequency (percentage)
Age:		
20	61	30.5
21-25	76	38
26-30	48	24
>30	15	7.5
Age of Husband:		
20-25	51	25.5
26-30	93	46.5
31-35	38	19
>35	18	9
Residence:		
City	157	78.5
Village	43	21.5
Level of education:		
High school	21	10.5
Diploma	82	41
Associate degree	62	31
B.A and above	35	17.5
Level of Husbands' education:		
High school	12	6
Diploma	48	24
Associate degree	96	48
B.A and above	44	22
Income (million):		
0.5 >	13	6.5
0.5-1	108	54
1-1.5	67	33.5
>1.5	12	6
Type of delivery:		
Vaginal	64	32
Cesarean	136	68

There was no significant correlation between the place of residence, occupation, educational level of spouse, spouse's age and choice of delivery.

There was a significant correlation between level of education and type of delivery; P= (0.036) so that people who had higher levels of education were more likely to choose cesarean-section. This pattern of

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significant correlation also existed between income $P= (0.021)$, age $P= (0.04)$ and the selection of type of delivery. The greatest reason for choosing the cesarean section was the fear of vaginal delivery (86%) and the other causes of concern in order of frequency were complications of vaginal delivery (57.4%) and recommendation of friends (56.6%) (Figure 1). The greatest reason for choosing the vaginal delivery was the fear of cesarean section (51.6%) and the other causes of concern in order of frequency were physician's recommendation (46.9%), suggestions of friends (35.9%) and suggestion of their spouses (31.3%) (Figure 2). Between variables of suggestion of husband, recommendations of friends and their method of delivery, suggestion of the doctor, concerns about the complications of delivery and the selection of the type of delivery, there was a significant relationship.

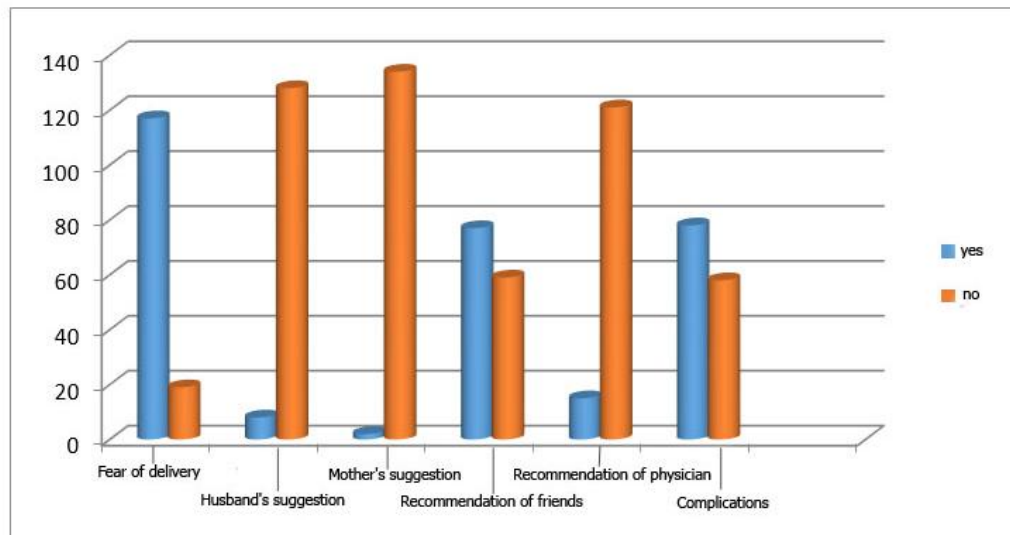


Figure 1: The effective factors for choosing the cesarean section

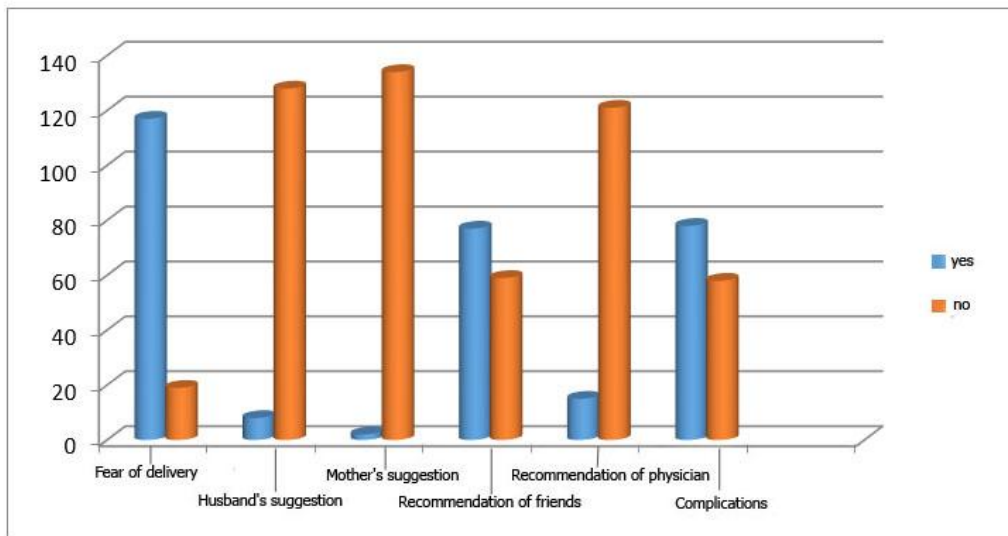


Figure 2: The effective factors for choosing the vaginal delivery

Discussion and conclusion

Cesarean section for the child birth is one of the methods that are used in case of emergency. But this is not necessarily the preferred method of delivery. Because like any other surgery, it's associated with some

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risks and complications and it's reported that maternal mortality risk in this method is higher than vaginal delivery.

In our study, the incidence of cesarean was determined as 68%. In Amiri's study in Shahrood, the cesarean frequency was reported 57.8% which is less than obtained amount in the current study (Amiri, 2013). In a study conducted by Sharghi *et al.*, (2010) in Ardebil, the frequency of cesarean section was calculated 58.6% (Sharghi *et al.*, 2010). In a study by Rahmanian *et al.*, (2011) in Jahrom, the cesarean prevalence was equal to 32.2% (Rahmanian *et al.*, 2011). Based on the results of our study and the conducted researches, it can be concluded that there is no significant relationship between employment status and method of delivery and maybe it can be admitted that regardless of employment status, the improper attitude of people can be one of the reasons for their poor performance in this area.

According to the findings of our studies, there is a significant relationship between increase in revenue and choosing the cesarean delivery; $P = (0.021)$.

In a study conducted by Chen *et al.*, (2008) there was a significant relationship between income and mode of delivery, families with higher incomes were more eager for cesarean which was consistent with our results (Chen *et al.*, 2008). Also in a study conducted by Pang, the similar results were obtained (Pang *et al.*, 2009).

In this regard, Fisher *et al.*, (1995) believe that the good financial situation is one of effective factors in increasing the maternal obstetric interventions of delivery such as an appeal for cesarean section. This is due to the fear of these mothers from inaccurate performance and lack of fluency during vaginal delivery. We can say that employment as well as high educational level is associated with higher social and economic status (Fisher *et al.*, 1995).

Based on the findings of this study, the frequency of education and husband's age in the two groups of vaginal and cesarean delivery is different from each other. But this difference between the two groups is not statistically meaningful ($P > 0.05$). In the study by Amiri *et al.*, (2013) in Shahrood County, there wasn't a meaningful relationship between husband's education and age and the type of delivery which is consistent with our findings (Amiri, 2013).

Based on the results of this study, the frequency of age in two groups of vaginal and cesarean delivery is different from each other and this difference between the two groups is statistically meaningful. Due to the significance level of less than 0.05 percent, we can say that there's a significant relationship between variables of age and type of delivery ($P = 0.04$). In the study of Mohammad *et al.*, (2009) in Shiraz, the age of over 35 years was associated with cesarean delivery which is consistent with the findings of our study (Mohammad *et al.*, 2009). In a study conducted by Naseh *et al.*, (2010) in Birjand, the age of most of mothers who went through cesarean was more than 35 which is consistent with the findings of our study (Naseh *et al.*, 2010). In the study of Rahmanian *et al.*, (2011) in Jahrom, the cesarean possibility of women in the age group of 20-29 was more than others which differs with the results of our study (Rahmanian *et al.*, 2011). In the study of Rahmanian *et al.*, (2011), all births are studied and regarding the reproductive age of women, it is expected that in the age range of 20-29, the statistics of deliveries and cesarean will be higher but in our study only the primiparous women are examined. Based on the results of our study it seems that since with the increase in age, tendency of women for pregnancy gets lower so they choose an easier and safer method of delivery for themselves and for their babies and this attitude is due to the lack of knowledge about obstetric procedures.

According to the results of our study, the most common cause for choosing the vaginal delivery is fear of cesarean (51.6%) followed by recommendation of physician (46.9%) and the suggestions of friends (35.9%). The greatest reason for choosing the cesarean method is the fear of vaginal delivery (86%), followed by concerns about its side effects (57.4%) and suggestions of friends (56.6%). Based on chi-square test and a significance level of less than 0.05 percent between delivery methods and suggestions of husband, friends' recommendations and their delivery methods, suggestions of physicians and concerns about side effects, significant differences were found and there was no meaningful relationship between recommendations of mother and choice of delivery method. In the study of Ghadimi *et al.*, (2013) at Babol, the biggest reason for choosing cesarean among the primiparous women was the fear from the pain

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of vaginal delivery (62%), suggestions of husband and relatives (35.8%) and the fear of complications of vaginal delivery (28.3%) and the biggest reason for choosing the vaginal delivery was the fear of cesarean and surgical complications (55%), followed by awareness and counseling (45%) and the findings of this study is consistent with the results of our study (Ghadimi *et al.*, 2013).

In a study conducted by Fathian *et al.*, (2010) at Khomeinishahr, the physicians had the most effect on choosing the type of delivery so that the 50 percent of cesarean deliveries and 29.6 percent of vaginal deliveries were performed by the recommendation of physicians (Fathian *et al.*, 2010). Also in a study which was conducted by Sharghi *et al.*, (2010) in Ardebil, 88.4% of women to whom the physician recommended the cesarean section, ended up having cesarean and 78.6% of cases to whom the doctor recommended vaginal delivery, wanted to give birth vaginally (Sharghi *et al.*, 2010) and these results are somewhat inconsistent with the results of our study. It may be because our study is done before the delivery but the results of these studies indicate that the recommendation of physician has a key role for choosing the type of delivery. In the study which was conducted by Amiri *et al.*, (2013) in Shahrood County, there was a meaningful relationship between recommendations of friends toward cesarean, cesarean section of friends in their last delivery, recommendations of husband and doctor for choosing and performing the cesarean section which is consistent with the findings of our study (Amiri *et al.*, 2013). In Porreco (2013) study also there was a meaningful relationship between the recommendation of husband and the type of delivery which is consistent with the results of our study (Porreco, 2013).

In this study we witness 68% of cesarean delivery in the studied group of women which is about 45 percent higher than internationally acceptable statistics and this thing has to be discussed and analyzed. The results of this study suggest that after nearly a decade, repeated studies have shown that pregnant mothers are not fully aware of complications of cesarean section and the attitudes towards the vaginal delivery is still wrong. This issue emphasizes the importance of proper care and planning.

This study constituted a homogenous group considering that all women were primiparous and the effects of some confounding factors were less in the result but limited number of samples for study was considered as limitations of the study and it's recommended that a wider group of pregnant women in the county to be studied.

By encouraging and supporting mothers psychologically in the cases of fear of vaginal delivery, cesarean rate can be reduced.

Cesarean culture in society should be changed. To change the culture and bring it up to the scientific and medical principles, the first step is to educate people, especially mothers and resolve misunderstandings. Proper strategies such as accurate and timely training and providing facilities for painless delivery can be used.

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