Available online at www.scholarsresearchlibrary.com

Scholars Research Library

Der Pharmacia Lettre, 2016, 8 (18):152-157
(http://scholarsresearchlibrary.com/archive.html)

Scholars Research Library
ISSN 0975-5071
USA CODEN: DPLEB4

Investigating Factors Associated with the Type of Delivery in Pregnant Women Admitted to Zahedan Hospitals in 2015

Aliakbar Keykha[1], Hassan Askari*[1], Ali Navidian[1], Maryam Navaee[1] and Bibi Mahdieh Khodadadi Hosseini[2]

[1]Pregnancy Health Research Center, Zahedan University of Medical Sciences, Zahedan, Iran
[2]Bachelor of Nursing, Alzahra Eye Hospital, Zahedan University of Medical Sciences, Zahedan, Iran

---

ABSTRACT

Although it is obvious that many advantages and disadvantages of cesarean and vaginal delivery are known, selecting the best delivery method by women requires numerous investigations and training. This study aimed to examine factors associated with of the delivery type in pregnant women admitted to Zahedan hospitals. The present descriptive-analytical study was conducted on 400 women who had vaginal or cesarean childbirth delivery. To collect the data, demographic, attitude and awareness questionnaires were employed. The mean age of the study participants was 27.7 years and their mean age of marriage was 19.6. There was no significant relationship between the age and delivery type. Chi-square analysis (Pearson correlation coefficient) revealed no significant correlation between education level and delivery type (P = 538). Mean scores of awareness for the vaginal and cesarean delivery groups were 27.4 and 29.5, respectively. In this regard, the difference observed was not significant (p = 101). Furthermore, no significant relationship was found between participants' education level and delivery type (P = 538). No significant correlation was also observed between participants' majors (medical, non-medical and other) and delivery type (p = 459). According to the results of the present study, providing training on methods and complications of childbirth in different educational levels is one of the critical needs of a society. In order to get informed of the reasons for women's lack of awareness, health professionals in medical centers should be enquired.

Keywords: Cesarean section, vaginal delivery, pregnant women

INTRODUCTION

Childbirth delivery is one of God's blessings for human beings. Delivery mechanism is a spontaneous process with no need for intervention [1] and if it is taken naturally, no complication occurs [2]. In some pregnancies, such as poor fetal presentation, fetal overgrowth, multiple pregnancies, structural abnormalities in the fetus, umbilical cord prolapse, placental detachment, and mothers' viral infections such as HIV or active herpes, there is no possibility of vaginal delivery and cesarean section is indicated. According to some evidences, such medical necessities in cesarean section can reduce mothers' pelvic floor disorders such as urinary and fecal incontinence and mother's pelvic organ prolapse [3] and they play an important role in reducing maternal and neonatal mortality rate [4]; however, in some cases, in the absence of medical and midwifery, maternal indications, the pregnant woman selects cesarean delivery and that is called elective caesarean delivery [5]. The prevalence of elective caesarean delivery has increased among women and it has become a culture in many societies [6]. Increased tendency towards cesarean delivery in modern midwifery has become one of the major concerns of the health system around the world [7]. Cesarean delivery without any medical indication, compared with vaginal delivery, leads to many complications for the mother and her fetus. These complications (with a frequency 5 to 10 times greater than those caused by vaginal delivery) include mothers' bleeding, anesthesia, embolism, infection, pelvic infection, pulmonary infection, urinary tract infection, deep vein thrombosis and psychological consequences such as nervousness, anxiety, feeling guilty

and frustration [8]. In addition, studies show that the costs of mothers' hospital stay and medications as well as the side effects of medications in the cesarean delivery are significantly higher, compared to the vaginal delivery [9]. The risk of maternal mortality in the cesarean is also three times higher than that in the vaginal delivery [10]. Research has revealed that many factors affect women's inclination towards elective caesarean section. In a study conducted by Shakeri et al. (2008) on 697 pregnant women having referred to maternity hospitals in Zanjan, a majority of mothers (43.3 percent) had chosen the cesarean section as their preferred pregnancy termination method because of their fear of pain [11]. In another study, Movahed et al. examined factors associated with selecting the cesarean delivery by women in Shiraz and they concluded that there is a significant relationship between women's age, marriage age, education level, and employment status and their husbands' education level and the cesarean delivery selection. Furthermore, there was a significant relationship between mothers' birth place and the cesarean delivery selection so that women residing in the province capitals compared to women living in towns had more frequently chosen the cesarean delivery and rural women had least frequently the cesarean delivery selection [12]. There are other reasons for the cesarean delivery to be taken. The results of a survey in the Netherlands showed that women who wish to have a C-section can always find obstetricians who can perform the cesarean section for non-medical reasons [13]. According to investigations carried out on increasing rate of the cesarean section in Iran, it can be claimed that, in many cases, ignorance, beliefs, behaviors, and false attitudes can result in the cesarean delivery as the preferred delivery method among women in Iran. Since the number of cesarean section performed in each country is one of the indicators to evaluate the performance of maternal health programs and because of the fact that increasing unnecessary cesarean sections show inadequacy of a health system [14], this study aimed to investigate factors associated with the type of delivery in pregnant women admitted to Zahedan hospitals located in Sistan-Baluchistan province given their specific cultural conditions and dearth of studies conducted in this regard.

MATERIALS AND METHODS

Having obtained the necessary permits from Zahedan University of Medical Sciences and receiving the ethics code numbered IR.ZAUMS.REC.1394.320 from the university's ethics committee, this correlational, analytic and descriptive study was conducted on women having vaginal delivery or caesarean section. According to previous studies and the number of deliveries reported in the province and based on Morgan Table, the study sample size was considered 400 [15, 16]. Inclusion criteria included lack of physical ailments such as hypertension, diabetes, eclampsia, multiple pregnancy, stillbirth, abortion, and medical indication for the caesarean section which contains two categories including fetus problem (macrosomia, breech position) or maternal problem (special pelvic shape, maternal disease). Convenient sampling was employed so that pregnant women voluntarily took part in the study after referring to midwifery centers, meeting the required inclusion criteria and completing a consent form. Data were collected using a questionnaire containing 61 questions and 6 sections. The first section contains 13 questions on demographic information and the second section consists of 7 questions on reproductive history. The third and fourth sections also contains 10 questions on the number of informants in research units providing information about the delivery methods and 14 questions on women's knowledge about caesarean section, respectively. Section 5 includes 16 questions on women's attitude towards cesarean section. There is also a question on the current delivery method. Degree of awareness was assessed based on the number of correct answers to each question. Each correct, uncertain, and incorrect answer was scored +1, 0, and -1, respectively. Hence, the awareness score ranged from 0 and 14, being classified into low (0-4), moderate (5-9) and acceptable [10-14] levels.

A 5-point Likert scale was employed to measure attitudes so that the respondents were to express their attitudes in varying degrees including strongly agree, agree, undecided, disagree and strongly disagree. In this case, scores ranged from 1 (strongly disagree) to 5(strongly agree), indicating varying values for each response. Accordingly, the attitude score ranged from 16 and 80, being classified into negative (16-37), neutral (38-58) and positive (59-80) attitudes. The questionnaire was previously employed Movahedi, et al. and its validity and reliability were confirmed [12]. It was also used by Jamshidi Avanaki and its validity and reliability were assessed through using content validity and test-retest reliability (r =% 89), respectively [15]. To confirm the validity of the questionnaire in the current study, it was submitted to some faculty members. Test-retest reliability was also used to assess the reliability of the questionnaire (r =% 78). In order to collect data, the researcher was present in the hospital on a daily basis at 8:00 AM before patients are discharged from any gynecology sectors. In the case that the inclusion criteria were met, the participants would get familiarized with the objectives of the study and completed the consent form. Then, the questionnaire designed for the study was distributed among the participants to be completed without the presence of the researcher. If the samples were illiterate, the questions were read aloud by the researcher and their selected options were checked. Finally, the data were analyzed using the SPSS software version 16.

RESULTS

The mean age of the study participants was 27.7 ± 6.1 years (ranging from 14 to 40 years). Average age of marriage was 19.6±6.4 years (ranging from 10 to 37 years). In terms of education level, there were 98 (24.5 per cent) illiterate persons, 134 (32.5 percent) persons with elementary education, 70 (17.5 percent) persons holding diploma and 98 (24.5 percent) persons of higher education. Regarding husbands' education level, there were 92 (23 per cent) illiterate persons, 90 (22.5 percent) persons with elementary education, 120 (30%) persons holding diploma and 98 (24.5 percent) persons of higher education. Concerning the field of study (i.e. major), there were 26 (5.6%) persons studying medicine and 62 (15.5 percent) persons studying non-medicine fields. In terms of employment, a total of 48 (12%) participants were employed and others were housewives (12 nurses, 12 clerks, 4 accountants, 8 caring personnel (medical and health workers), 8 teachers and 4 university instructors). Regarding the participants' birthplace, there were 132 persons (33 percent) born in villages, 152 persons (37 percent) in towns and 116 persons born in the province. In terms of ethnicity, the participants consisted of 4 Kurdish persons (1 percent), 4 Turkish persons (1 percent), 4 Arabs (1 percent), 134 Persian persons (33.5 percent), 250 Baloch individuals (62.5 percent), and 4 cases from other ethnic groups. In terms of social class, there were 2 persons at a highly upper class (.5 percent), 10 persons at an upper class (2.5%), 36 persons at an upper –medium class (9 percent), 138 persons at a medium class (34.5 percent), 80 persons at a medium-lower class (20%), 92 persons at a lower class (23%), and 42 persons at a highly lower class (10.5 percent).

Considering the previous delivery, there were 82 persons (20.5 percent) with no history of previous cesarean delivery, 128 persons (32%) undertaken previous cesarean delivery, 158 persons (39%) having vaginal delivery and 32 subjects (8%) with a history of both types of delivery. Regarding abortion, 284 had experienced it in previous pregnancies; however, 116 persons (29%) had no prior experience in this regard. In conjunction with a history of infertility, 32 cases (8%) had fertility problems. In terms of the location of previous delivery in patients who had previous experience, 296 cases had childbirth delivery in public hospitals (74%) and 26 cases (6.5 percent) delivered in private hospitals. Other cases had home delivery. Considering the location of pregnancy care, 8 case (2 percent) had received no care and 300 subjects (75%) and 92 people (23%) received care from public and private health centers, respectively. Regarding family history of cesarean section, there were 308 cases (77 percent) with such history and 92 patients (23 percent) with no history.

In terms of knowledge acquisition from radio and television, 140 (35%), 70 (17.5%), 56 (14%), 74 (18.5%), 48 (12%), and 12 (3%) cases answered "never", "hardly ever", "rarely", "sometimes", "often" and "always", respectively. In terms of knowledge acquisition from satellite, 268 (67%), 54 (13.5%), 54 (13.5%), 14 (3.5%), and 10 (2.5%) cases answered "never", "hardly ever", "rarely", "sometimes" and "always", respectively. In terms of knowledge acquisition from textbooks, 248 (62%), 34 (8.5%), 32 (8%), 54 (13.5%), and 28 (7%) cases answered "never", "hardly ever", "rarely", "sometimes" and "always", respectively. In terms of knowledge acquisition from other books rather than textbooks, 240 (60%), 46 (11.5%), 46 (11.5%), 50 (12.5%), and 18 (4.5%) cases answered "never", "hardly ever", "rarely", "sometimes" and "always", respectively. In terms of knowledge acquisition from magazines, 264 (66%), 50 (12.5%), 50 (12.5%), 24 (6%), 24(1%), and 8 (2%) cases answered "never", "hardly ever", "rarely", "sometimes", "often" and "always", respectively. In terms of knowledge acquisition from family and friends, 54 (13.5%), 46 (11.5%), 38 (9.5%), 50 (12.5%), 134(33.5%), and 76 (19%) cases answered "never", "hardly ever", "rarely", "sometimes", "often" and "always", respectively. In terms of knowledge acquisition from movies and CDs, 286 (71.5%), 48 (12%), 12 (3 %), 24 (6%), 24(1%), and 6 (1.5%) cases answered "never", "hardly ever", "rarely", "sometimes", "often" and "always", respectively. In terms of knowledge acquisition from health experts, 10 (25%), 36 (9%), 52 (13 %), 116 (29%), 76(19%), and 20 (5%) cases answered "never", "hardly ever", "rarely", "sometimes", "often" and "always", respectively. In terms of knowledge acquisition from brochures and workshops, 298 (74.5%), 40 (10%), 20 (5 %), 30 (7.5%), 10(5.2 %), and 2 (.5%) cases answered "never", "hardly ever", "rarely", "sometimes", "often" and "always", respectively. In terms of knowledge acquisition from internet, 282 (70.5%), 30 (7.5%), 30 (7.5 %), 18(4.5 %), 20 (5%) and 20 (5%) cases answered "never", "hardly ever", "rarely", "sometimes", "often" and "always", respectively.

Responses provided by the study participants to items on awareness (knowledge)

	True	False	I do not know
There is a higher risk of bleeding after cesarean section.	170 (42.5%)	(17.5%)70	(40%) 160
In cesarean section, breast milk is produced later.	150 (37.5)	108(27)	142 (35.5)
There is a higher mortality risk for mothers and infants in vaginal delivery.	108 (27)	184 (46)	108 (27)
The risk of infectious diseases is higher in CS.	236 (59)	66 (16.5)	98 (29.5)
In vaginal delivery, there is a higher risk of urethra damage.	172 (43)	74 (18.5)	154 (38.5)
In cesarean delivery, birth injuries such as fractures and dislocation are more common.	58 (14.5)	186 (46.5)	156 (39)
In caesarian delivery, abdominal adhesion is more common.	216 (54)	36 (9)	146 (36.5)
In vaginal delivery, there is a higher risk of damage to the pelvic floor.	172 (43)	56 (14)	172 (43)
In caesarian delivery, infants' preterm weight loss is more likely.	116 (29)	90 (22.5)	194 (48.5)
Cesarean delivery increases the risk of respiratory problems for infants.	110 (27.5)	90 (42.5)	200 (50)
Postpartum depression is more common in vaginal delivery.	136 (34)	120 (30)	144 (36)
The risk of spinal anesthesia and urinary incontinence is more prevalent in vaginal delivery.	126 (31.5)	122 (30.5)	152 (38)
The possibility of infertility is higher in vaginal delivery.	70 (17.5)	184 (46)	146 (46.5)
Bleeding is more in vaginal delivery than cesarean section.	134 (33.5)	140 (35)	126 (31.5)

Responses provided by the study participants to items on attitude

	Strongly agree	agree	**Undecided**	disagree	strongly disagree
Vaginal delivery is difficult.	132 (33)	126 31.5)	24 (6)	78 (19.5)	40 (10)
I could not afford vaginal delivery.	52 (13)	80 (20)	38 (9.5)	158(39.5)	72 (18)
Cesarean section is more prestigious than vaginal delivery.	36 (9)	58 (14.5)	78 (19.5)	122(30.5)	106 (26.5)
Women are not respected in vaginal delivery.	54 (13.5)	64 (16)	92 (23)	132 (33)	58 (14.5)
In cesarean section, husbands' emotional support is more and this conveys a good feeling.	92 (23)	104 (26)	102 (25.5)	62 (15.5)	40 (10)
After vaginal delivery, sexual satisfaction (sexual pleasure) is reduced.	44 (11)	82 (20.5)	156 (39)	92 (23)	26 (6.5)
In cesarean section, women lag behind their jobs and lives because of its longer convalescence (recovery period).	150 (37.5)	142(35.5)	30 (7.5)	60 (15)	18 (4.5)
Woman's body shape is changed after vaginal delivery.	44 (11)	98 (24.5)	94 (23.5)	132 (33)	32 (8)
Because cesarean section is predictable and planned, it reduces women's stress.	68 (17)	140 (35)	72 (18)	74 (18.5)	46 (11.5)
Vaginal delivery is better for mothers and infants' health.	158 (39.5)	96 (24)	76 (19)	40 (10)	30 (7.5)
Cesarean pain is less; therefore, I prefer it.	42 (10.5)	48 (12)	74 (18.5)	154(38.5)	82 (20.5)
I cannot even imagine having a painful vaginal delivery.	100 (25)	86 (21.5)	56 (14)	90 (22.5)	68 (17)
I am embarrassed about having vaginal delivery.	56 (14)	38 (9.5)	36 (9)	170(42.5)	100 (25)
Vaginal delivery is a painful experience.	86 (21.5)	116 (29)	84 (21)	68 (17)	46 (11.5)
In vaginal delivery, I can immediately see my child and this is pleasant.	198 (49.5)	124 (31)	20 (5)	40 (10)	18 (4.5)
In cesarean section, women's dignity is preserved and there is less disrespect.	100 (25)	66(16.5)	106 (26.5)	86 (21.5)	42 (10.5)

Considering type of delivery, there were 212 cases (53%) having vaginal delivery and 188 cases (47%) having cesarean delivery. According to the independent t-test results, no significant difference was observed between the mean ages of the participants in the two delivery type groups; however, the mean age of those having elective caesarean section was slightly higher than other group (P = 466). According to the chi-square test (Pearson correlation), no significant relationship was found between participants' education level and the type of delivery (P = 538). The results of this test also showed no significant relationship between academic fields of study (medical, non-medical, and others) and the type of delivery (p = 459). The results of independent t-test revealed no statistically significant difference between the average family income and choice of delivery type by women (p = 953). Chi-square test results indicated a statistically significant relationship between employment and delivery type selection (p = 0.04) so that housewives were more inclined to have the vaginal delivery. Chi-square test results also showed a statistically significant relationship between delivery type selection and the education level of the participants' husbands (p = 410). Independent t-test results also showed no statistically significant difference between the mean age of marriage and delivery type selection; however, the average age of those having C-sections was slightly higher than other group (p = 0.092). Chi-square test results revealed no statistically significant relationship between the residency location and delivery type selection; even though, the villagers were more willing to experience vaginal delivery (p = 0.054). Chi-square test results, however, showed a statistically significant relationship between participants' previous delivery type and currently selected delivery type. In this case, those participants who had previously delivered vaginally were more inclined to this type of delivery and those who had caesarean section were more likely to undergo cesarean section (p = 0.001). Chi-square test results indicated no statistically significant relationship between history of previous abortion and current delivery type selection (p = 392). Chi-square test results also revealed no statistically significant relationship between selected type of delivery and previous history of infertility (p = 440).

The participants' mean score of awareness was 28.4 ± 6.5 (ranging from 15 to 58). The mean scores of awareness among participants with vaginal delivery and cesarean section were 27.4 and 29.5, respectively. According to independent t-test results, there was no statistically significant difference between the means (p = 101). The participants' mean score of attitude was 3.45±7.9 (ranging from 22 to 68). The mean scores of attitude among participants with vaginal delivery and cesarean section were 46.4 and 44.2, respectively. According to independent t-test results, no statistically significant difference was observed between the means (p = 963). Regression analysis also revealed a significant relationship between the current type of delivery and pervious delivery type (p = 0.006).

DISCUSSION

The results of the present study revealed no significant relationship between women's age, education level and fields of study and their husbands' education level and the choice of delivery type. Ali et al. also found no statistically significant relationship between women's education level and their husbands' education level and the choice of delivery type. Further, they concluded that this is caused by lack of attention to these pregnancy-related issues at different education levels. This finding is consistent with the results of the present study. According to the literature, it seems that pregnancy-related issues are not concerned at different education levels due to some ideological and cultural issues. Moreover, in the above-mentioned study, it was also reported that housewives were more inclined towards having a vaginal delivery than employed women. This may be associated with the financial independence of the employed women. In this study, housewives were more interested in the vaginal delivery. The rate of cesarean section was higher among employed women. However, no relationship was found between household income and the choice of delivery type. The same can be concluded: women having financial independence are more likely to choose caesarean section as a pregnancy termination method. In their study, younger women had positive attitudes towards the caesarean section. In contrast, the average age of women with caesarean section was higher. However, there was no significant difference between age and delivery type selection [17]. Rezai et al. indicated a significant relationship between personal variables such as age, education level, occupation, and place of residence and number of deliveries and delivery type selection. The findings are not in a similar line with the results of this study. In the current study, the relationship between type of delivery and delivery type selection was only significant so that those participants who had previously delivered vaginally were more inclined to this type of delivery and those who had caesarean section were more likely to undergo cesarean section [18]. Faramarzi et al. claimed a significant relationship between women's education level and employment and their awareness about the vaginal delivery. This finding is not in similar vein with the findings of the present study. In their study, they also mentioned that there was no significant relationship between women's age and number of deliveries and delivery type selection. The results are consistent with the findings of the present study. Like the present study, they also reported that rural women were more likely to have the vaginal delivery. However, unlike the results obtained in this study, Faramarzi, et al. indicated that employed women were more prone to the vaginal delivery [19]. Shahraki et al. also in their study also revealed no relationship between occupation and education level of pregnant women and their request for cesarean delivery [20]. In Jamshidi Avanaki's study, a majority of women had secondary or high school education; however, a majority of women participating in this study had secondary and academic education. Similarly, a majority of women were housewives in both studies. In Jamshidi Avanaki's study, the source of information about childbirth delivery was family and friends and little information was received from health experts. This matches with the findings of the present study and indicates that more investment and training are required in this regard [15]. Similarly, in Sharifirad's study, no statistically significant relationship was observed between age and education level and awareness about types of delivery [1].

CONCLUSION

According to the results of the present study, providing training on childbirth delivery methods and complications in different educational levels is of essence. Another necessity involves conducting further studies on reasons for lack of training and information about childbirth delivery methods, benefits and complications by health experts who are committed to undertake this mission. Further efforts are also recommended in this regard.

Acknowledgments
We would like to express our gratitude to the Pregnancy Health Research Center and the deputy of Research and Technology/Zahedan University of Medical Sciences for their financial and moral support in this study.

REFERENCES

[1] Sharifirad GR, Fathian Z, Tirani M, Mahaki B. *JIUMS,***2007**; 15(1):19-23.
[2] Sharifirad G, Rezaeian M, Soltani R, Javaheri S, Mazaheri MA. *J Educ Health Promot.* **2013**; 2: 50 2013;2(1):50.

[3] Armson BA. *CMAJ*, **2007**; 176(4):475-6.
[4] Mostafazadeh F, Mashoufi M, Rostamnegad M. *JAUMS*, **2006**; 6(4):403-8.
[5] Shahraki-Sanavi F, Rakhshani F, Navidiyan A, Ansari-Moghaddam A. *zjrms*, **2012**; 14(9):95-7.
[6] Abad M, Merghati Kea. *J of Medical Ethics*, **2009**; 3(8):103-125.
[7] Subedi S.*JONMC* ,**2012**;1(2):50-6.
[8] Boskabadi H, Zakerihamidi M, Bagheri F. *TUMJ*, **2014**; 71(12):807-15.
[9] Mohammadpourasl A, Asgharian P, Rostami F, Azizi A, Akbari H. *JKH* **2009**;4(1):36-39.
[10] Khawaja M, Choueiry N, Jurdi R. *East Mediterr Health J*, **2009**;15 (2):458.
[11] Shakeri M, Mazloumzade S, Mohamaian F. J *ZUMS* ,**2012**; 20(80):98-104.
[12] Movahed M ,Enayat H, Ghaffarinasab E, Alborzi S, Mozafari R. *JFUMS*, **2012**;2(2):78-83.
[13] Kwee A, Cohlen BJ, Kanhai HH, Bruinse HW ,Visser GH. *Eur J Obstet Gynecol Reprod Biol*, **2004**;113(2):186-90.
[14] Pourheydari M, Souzani A, Kasaeyan A. *JKH*, **2007**; 2(2):28-34.
[15] Jamshidi Evanaki F, Khakbazan Z, Babaei G, Seyed Noori T. *J of Hayat*, **2004**; 10(3):50-60.
[16] Sharghi A, Kamran A, Sharifirad G. *Medical J Hormozgan University*, **2011**; 15(3):234-42.
[17] Aalei B, Motamedi B. *Iran J Obstet Gynecol Infertil* ,**2001**-**2002**;3(5-6):43-50.
[18] Rezaei M, Zand Vakili F, Shahavi R, Roshani D, Farhadifar F. *Iran J Obstet Gynecol Infertil*,**2016**;18(185):1-9.
[19] Faramarzi M, Pasha H, Bakhtiari A. *J Babol Univ Med Sci*, **2001**;3(4):39-42.
[20] Shahraki Sanavi F, Navidian A, Rakhshani F, Ansari-Moghaddam A. *Medical J Hormozgan University*, **2012**; 17(6):531-39.