

Knowledge and attitudes of women about Cesarean section living in Bonab, Iran

İran Bonab'da yaşayan kadınların sezaryen konusundaki görüş ve eğilimleri

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Abstract

Aim: Studies conducted in large cities of Iran showed a tendency to prefer Cesarean section (CS) among women. On the other hand, there is a lack of studies investigating the thoughts of women about CS in small cities. The aim of this study was to investigate the knowledge and attitudes of women living in a small city in the Northwest of Iran regarding CS.

Materials and Methods: This descriptive study was carried out in four health centers in Bonab, a city in the Northwest of Iran. There were 189 women participating in this study. A questionnaire on their background, knowledge, attitudes and the reason for the selection of CS was used for data collection. Data analysis was performed using SPSS version 17 software (version 17).

Results: The results of this study showed that *fear of pain, prevention of genital tears and fear of vaginal exams* are the most important reasons for selecting CS. This study also showed that participants had a limited knowledge and positive attitude regarding CS.

Conclusion: Positive attitude of women in combination with their limited knowledge about CS, show the need for educating women on the complications of CS.

Keywords: Cesarean section, attitude, Bonab, Iran.

Öz

Amaç: İran'ın büyük şehirlerinde yapılan araştırmalarda kadınların sezaryen ile doğumlara eğilimin arttığını göstermektedir. Ancak, küçük şehirlerde kadınların sezaryen konusunda araştırma bulunmamaktadır. Bu çalışmanın amacı, İran'ın Kuzey Batısındaki küçük bir şehirde, kadınların sezaryen hakkında görüşlerini ve eğilimlerini araştırmaktır.

Gereç ve Yöntem: Bu araştırma, İran'ın Kuzey Batısındaki Bonab şehrindeki 4 sağlık ocağında yapıldı. Toplam 189 kadının görüş ve eğilimleri araştırıldı. Bu amaçla, bir soru kitapçığı hazırlandı ve kadınların sezaryen ile doğumu tercih etmeleri konusundaki görüşleri alındı. İstatistik veriler SPSS programı (versiyon 17) ile değerlendirildi.

Bulgular: Kadınların sezaryen ile doğum yöntemini seçmedeki en önemli nedenler; "doğum ağrısı korkusu", "genital yırtıkların önlenmesi" ve "vajinal muayene korkusu" olarak tespit edildi. Ayrıca kadınların bilgi kısıtlılığı ve sezaryene eğilimleri olduğu görüldü.

Sonuç: Kadınların sezaryene eğilimleri olduğu görülmektedir. Bilgi kısıtlılığından dolayı bu konuda sezaryenin yan etkileri hakkında kadınlar daha fazla bilgilendirmek gerekmektedir.

Anahtar Sözcükler: Sezaryen, eğilim, Bonab, İran.

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Introduction

Pregnancy is a physiological phenomenon including many dimensions like physical, social, physiological, cultural and mental aspects. The end of pregnancy with parturition is a spontaneous process without any intervention (1). The role of the obstetrician and the midwife are fundamental to the successful antenatal management and performance of safe delivery and birth of the healthy infant with preservation of the mother's health (2). Delivery by Cesarean section (CS) also has a negative impact on the health care system due to its higher cost and requirement of additional resources (3). Although a CS could be lifesaving, it is not risk free (4). Several studies confirmed higher rate of maternal and neonatal mortality and morbidities in Cesarean delivery compared with vaginal delivery (5). Like other surgical operations, CS carries the risk of infection, including local wounds, pelvic, respiratory tract and urinary tract infections, as well as pulmonary embolism, venous thrombosis and complications of anesthesia (6). CS may also increase the fetal risks of respiratory distress syndrome, persistent pulmonary hypertension, preterm infants, transient and fetal lacerations (7-9). An unnecessary CS is also costly, consuming scarce health care resources (4).

CS rate is among the indicators of poor performance of a health care system. There is a great difference between the prevalence in Iran and Western countries. Australia, UK and Italy have higher rates (10,11). In Latin America, the rate of Cesarean deliveries in 1998 were reported to be about 38.1% of all childbirths. In Brazil the rate of CS shows difference among regions and it is estimated to be approximately 20% to 52% with a higher rate in educated women and those with better financial situation (12). The rates of CS in most countries are very high. For example, it has been reported to be 32.9% in the US in 2009, 39.8% in Italy in 2007, 30.6% in Australia in 2007, 35.3% in Korea in 2008 and 37.7% in Turkey in 2006 (13). The rate of CS in Iran has increased by six fold over the past three decades (14). CS rate was 14.3, 22.7, 35, 40 and 85.3% in a public hospital in Tehran in 1978, 1988, 2000, 2005 and 2008, respectively (6). Results of a study in the Southwest of Iran in 2010 showed a rising trend of CS rate as high as 50% (5). However, WHO states that only 5-15% of deliveries need CS (15).

Several reasons could explain the increase in CS. Empirical evidence reveals a positive relationship between CS and the patient's socioeconomic status. Detailed analysis of the profiles of patients undergoing CS in most countries, including Brazil and America, indicated that private patients and women with a high educational level are typical candidates for a surgical delivery (16,17).

Some reasons for the increase in CS in Iran have been suggested. Maternal Health Office in the Iranian Ministry of Health and Medical Education believes that pregnant women and physicians are both involved in this regard. The factors include emphasis of medical staff for choosing Cesarean delivery (18), viewpoint of women that Cesarean delivery is an easy and painless way for delivery (19), women's fear of natural childbirth (20) and women's insistence on performing CS (21). In addition, economic and social issues are especially important in the decision to perform a CS. The cost of Cesarean delivery is much higher compared with vaginal delivery and it induces doctors to perform CS (17,22).

However, in some countries, including Nigeria, due to economic problems, one fourth of women do not accept performing CS even in emergency situations (23). A study showed that only 2.5% of deliveries in the USA in 2003 were performed using CS based on women's request (24).

In Iran, some studies have investigated the viewpoint of health care workers and women (3,17,22) about willingness to CS and related factors. However, most of these studies have examined the views of women in large cities and women's perspectives in this field have not been studied in small towns. Therefore, the aims of this study were to investigate the knowledge and attitudes of women about CS living in a small city in the Northwest of Iran.

Materials and Methods

This descriptive study was carried out from June to October of 2012 in Bonab, a city in East Azerbaijan Province. This city has 15 health care centers (seven rural and eight urban centers) and for this purpose two urban and two rural health centers were selected randomly (Gharachopogh, Revesht, Asgharabad, Akbarabad; on average 50 people visiting per day).

The target population included all women who received medical care from Bonab health care centers during the study period. The sampling method was convenience sampling and all women who referred to the selected centers during the study period were invited to participate. The inclusion criteria for these women were being at least 18 years old, a previous pregnancy or pregnancy during the study, and acceptance to participate in the study. After conducting a pilot study on 30 women with similar characteristics, a sample size of 180 was calculated. To cope with the possible non-response of the participants this sample size was increased to 220 women (CI 95%). Finally, the data were collected from 189 women.

A questionnaire was used for data collection. This questionnaire was designed based on literature review and had four parts. The first part was a check list that assessed some demographic characteristics of

participants. The second part investigated the knowledge of participants about advantages (12 items) and disadvantages (24 items) of CS. The participants were able to select more than one advantage or disadvantage in each part. For each item the participants were expected to select *yes* when they agreed with that item and choose *no* when they disagreed with it. The third part was a 16-item questionnaire investigating the viewpoint of participants about CS. Each item was based on a 6-item Likert scale ranging from completely disagree (score 1) to completely agree (score 5). The fourth part investigated the reasons of women for selecting CS.

The content validity of the questionnaire was determined based on comments from 12 academic staff from Bonab Azad Islamic University and Tabriz University of Medical Sciences. In addition, the reliability of the questionnaire was measured based on a pilot study on 20 women who met the inclusion criteria of the study. The Cronbach's alpha coefficient for all parts of the questionnaire was more than 0.89.

Data analysis was performed using SPSS software (version 17). Descriptive statistics including frequencies, percentages, means and standard deviations were prepared for demographic characteristics of participants, their knowledge and attitude about Cesarean section and their reasons for choosing Cesarean section as a delivery method. A p value of <0.005 was considered as statistically significant.

Results

The demographic characteristics of participants are reported in Table-1. Most of the participants were aged between 25-29 years, housewives, educated at high school level, and under 20 years in the time of marriage. The husbands of most participants were educated at high school level and aged between 30-34 years. The main source of information about Cesarean section was relatives and private physician.

The results showed that *low pain* and *prevention of genital tears* and *low need for physical examination* were the predominant advantages of CS from the viewpoint of participants and *pain after surgery*, *back pain after surgery*, and *anesthesia risk* were mentioned as the predominant disadvantages of CS. The responses of women to all items regarding advantages and disadvantages of CS are shown in Table-2.

The responses of women to all items of the attitude questionnaire are reported in Table-3. The results showed that *inappropriate behavior of the hospital personnel during labor cause a tendency to CS*, *if a woman wishes tubal ligation, CS is a good way* and *CS prevents pelvic organ prolapse* items received the highest mean scores. Also, many of the women believed

that Cesarean was a modern method of delivery. On the other hand, *because of insurance, it is best to do Cesarean, cost of Cesarean section compared with vaginal delivery is higher* and *CS can prevent death of the newborn* received the lowest attitude scores.

The reasons for selection of CS as a delivery mode by participants are reported in Table-4. *Fear of pain, prevention of genital tears* and *fear of vaginal medical exams* are the most important reasons for selecting Cesarean as a mode of delivery. Also, *tubal ligation, unpleasant experience of previous vaginal delivery*, and *shorter delivery time* are the less frequent reasons.

Table-1. Demographic Characteristics of the Participants.

Characterstics	Subgroups	n (%)
Age (years)	15 - 19	23 (11.4)
	20 - 24	45 (22.4)
	25 - 29	74 (36.8)
	30 - 34	37 (18.4)
	≥ 35	22 (10.9)
Job	Housewife	161 (85.2)
	Out of home job	28 (14.8)
Education	Illiterate	6 (3.0)
	Primary	20 (9.9)
	Guidance school	46 (22.8)
	Diploma	100 (49.5)
	University degree	30 (14.9)
Age at marriage (years)	< 20	105 (52.8)
	20 - 24	71 (35.7)
	≥ 25	23 (11.6)
Age of husband (years)	20 - 24	27 (13.6)
	25 - 29	60 (30.2)
	30 - 34	74 (37.2)
	≥ 35	38 (19.1)
Education of husband	Illiterate	8 (4.0)
	Primary	21 (10.4)
	Guidance school	54 (26.9)
	Diploma	75 (38.8)
	University degree	40 (19.9)
Source of information about CS	Book and magazine	30 (14.9)
	Media	33 (16.3)
	Private physician	102 (50.5)
	Other health care providers	33 (16.3)
	Relatives	127 (62.9)
	Experince in previous pregnancies	80 (39.6)

* CS: Cesaren section

Table-2. Knowledge of Participants About Advantages and Disadvantages of Cesarean Delivery.

Advantages	n	%
Low pain	154	76.2
Prevention of genital tears	153	75.7
Low need for vaginal examination	151	74.8
Prevention of bladder and rectal prolapse	146	72.3
Precise choice of delivery date	126	62.4
Prevention of urinary incontinence after childbirth	102	50.5
Less damage to the genitourinary tract	92	45.5
Prevention of incontinence after childbirth	89	44.1
Low rate of infant mortality	87	43.1
To maintain sexual function and appearance	76	37.6
The absence of fractures in infants during CSs	60	29.7
More clever infant	45	22.3
Disadvantages		
Back pain after surgery	183	91.6
Pain after surgery	179	88.6
Perioperative Pain	137	67.8
Anesthesia risks	119	58.9
Prolonged hospitalization	114	56.4
Increased hospitalization days	111	55.0
Rreturn to normal life	110	54.7
Need more help in the care of infants and breastfeeding	106	52.5
Postoperative abdominal distention	87	43.1
Need for more medication after Cesarean	84	41.6
Probability of dehiscence in sutures	78	38.6
Possible delay intercourse after childbirth	74	36.6
Increased risk of premature birth of infants	60	29.7
The probability of remaining gas or scissors in the abdomen after surgery	53	26.2
Uterine infection	48	23.8
Abdominal infections	40	19.8
Intra-abdominal adhesions	40	19.8
Increased risk of respiratory problems in infants	39	19.3
Increased risk of maternal mortality	30	14.9
The risk of uterine rupture in next pregnancies	23	11.4
thrombosis	16	7.9
Infertility after surgery	15	7.4
Damage to the urinary tract	13	6.4
The risk of placenta previa in next pregnancies	11	5.4

* CS: Cesaren section

The relationship between attitudes toward CS and women's selected demographic characteristics like maternal age at marriage, spouse's age, level of education and job are reported in Table-5.

Discussion

The aims of this study were to investigate the knowledge and attitudes of women about CS living in a small city in the Northwest of Iran. To our knowledge, it is one of the first studies investigating this issue in the Iranian health care system. CS may save the life of the mother and newborns, but the results of many studies showed that without supervision this method may lead to many unwanted complications in women (6). In general, CS without medical reason is a concern in modern obstetrics (25).

The results of this study showed that relatives and private physicians are the main sources for obtaining information by women and media and other health professionals, including midwives, are sources used less frequently by women. The results of some studies in Iran showed that gynecologists were the main source of information for women about CS (22,26). One reason for the increase in CS without medical indication is the invalid source of information used by women. Interestingly, some researchers even considered gynecologists as an invalid source of information for women regarding CS. Hopkins (27) believes that physicians have a role in persuading patients to select CS and indirectly increase the CS rate. Undoubtedly, today more gynecologists accept the request of women for CS (24). Some studies reported that one of the main reasons of the high prevalence of CS among Iranian & other-country women is its recommendation by gynecologists (22,28). Our results indicate that Iranian women did not use valid sources of information on CS and that they did not consult other health care professionals, especially midwives.

About our results on the viewpoint of women about the advantages and disadvantages of CS, we found that participants were not aware of the exact and dangerous complications associated with CS. These results are consistent with the results of other previous studies. For example, Fenwick et al. (29) showed that fear of pain, health of mother and infant, and getting rid of physical examination were the most important reasons for requesting CS by Australian women. Eynsheykh et al. (30) showed that 38% of pregnant women desired to select CS as their delivery method and their most important reason was fear of labor pain. Johnson et al. (31) also reported that most women were afraid of CS but that they preferred Cesarean to vaginal delivery. Poikkeus et al. (32) stated that women's preference for elective CS is based on their unrealistic fear of pain during vaginal delivery and misconceptions about their

inability to perform vaginal delivery. One of the possible reasons for this viewpoint is their unawareness about the methods of painless delivery (33). Previous studies in Iran approved that most Iranian women had less information about CS and its short and long complications (1,34). It was also reported that educating women will decrease their tendency for CS (35).

Regarding the attitudes of women regarding CS, our results showed that preventing pelvic organ prolapse and inappropriate behavior of health personnel and tubal ligation were the main positive attitudes of women. On the other hand, preventing the death of the newborn by CS were the most negative attitudes of participants. In addition, participants had relatively positive attitudes towards Cesarean delivery. Seyed Nouri et al. (36) showed that the attitude of women toward CS is moderate, but Sharifirad et al. (34) reported that most participants had a relatively positive attitude. Therefore, by instructing women on the disadvantages of Cesarean delivery, the rate of this type of delivery could be decreased. Some Iranian studies have already shown that educating women about CS reduces their willingness to this method (3,17,34).

In this study, the association between maternal age at marriage and the age of spouses and level of education, occupation and other demographic characteristics and choosing Cesarean delivery was significant. In Brazil, highly educated women and those from high socioeconomic class had a significantly higher preference and also experienced a higher rate for CS. A previous study from Iran reported that higher level of education was associated with preference for CS (3).

Conclusion

The results of the present study have many implications for decreasing the rate of Cesarean delivery in Iranian health care system, especially in small cities and rural areas. The results of this study also approve that even in small cities and the rural setting women have a relatively positive attitude toward CS. In addition, this positive attitude is based on misconceptions. So, providing valid information about complications associated with CS and providing better care in maternity period could decrease its rate. As another implication, the main sources of information on Cesarean for Iranian women in small cities are their relatives or gynecologists. So, there is a need for providing information to these women from more valid sources, including midwives.

Table-3. The Attitude of Pregnant Women About Benefits and Detriments of CS*.

Parameters	Strongly disagree	Disagree	No idea	Agree	Completely agree	Mean	SD
	n (%)	n (%)	n (%)	n (%)	n (%)		
Cesarean delivery is generally easier than vaginal delivery	13 (6.4)	26 (12.9)	12 (5.9)	102 (50.5)	49 (24.3)	3.7	1.1
Children born by CS are more clever	22 (11.2)	60 (30.5)	71 (36)	34 (17.3)	10 (5.1)	2.7	1.0
Cesarean operation will cause complications	15 (7.5)	48 (23.9)	65 (32.3)	62 (30.8)	11 (5.5)	3.0	1.0
CS will cause the abdominal deformity	23 (11.5)	58 (29)	40 (20)	74 (37)	5 (2.5)	2.9	1.1
Elective CS are for those in higher social class	48 (24.2)	74 (37.4)	23 (11.6)	44 (22.2)	9 (4.5)	2.9	1.1
Cost of CS compared to vaginal delivery is higher	54 (27.6)	73 (37.2)	25 (12.8)	32 (16.3)	12 (6.1)	2.4	1.2
CS can prevent death of newborn	7 (3.5)	43 (21.5)	62 (31)	54 (27)	34 (17)	2.3	1.2
My relatives are satisfied with CS, so I like this way of delivery	27 (13.4)	60 (29.9)	27 (13.4)	66 (32.8)	21 (10.4)	3.3	1.0
Care of women during Cesarean delivery is better	1 (0.5)	7 (3.6)	28 (14.2)	126 (64)	35 (17.8)	2.9	1.2
Inappropriate behavior of the hospital personnel during labor cause a tendency to CS	26 (12.9)	49 (24.4)	49 (24.4)	67 (33.3)	10 (5)	3.9	0.7
Inappropriate behavior of the hospital staff in natural childbirth	26 (12.9)	53 (26.4)	51 (25.4)	61 (30.3)	10 (5)	2.8	1.1
Because of insurance, it is best to do CS	74 (36.6)	84 (41.6)	20 (9.9)	21 (10.4)	3 (1.5)	1.9	1.0
Cesarean delivery is a modern method	5 (2.5)	41 (20.6)	26 (13.1)	72 (36.2)	55 (27.6)	3.6	1.1
CS is not a natural way for delivery	28 (14)	69 (34.5)	30 (15)	62 (31)	11 (5.5)	2.7	1.1
Since the situation of mother in vaginal birth is unpleasant, CS is preferred	18 (9)	52 (25.9)	61 (30.3)	55 (27.4)	15 (7.5)	2.9	1.0
If you wish to tubal ligation, CS is a good way	2 (1)	20 (10.1)	22 (11.1)	79 (39.7)	76 (38.2)	4.0	0.9
CS prevents pelvic organ prolapse	3 (1.5)	8 (4)	57 (28.8)	47 (23.7)	83 (41.9)	4.0	1.0

* CS: Cesaren section

1: Strongly disagree, 2 : Disagree, 3: No idea, 4: Agree, 6: Completely agree

Table-4. Reasons of Cesarean Delivery Selection Among Women Who Referred to Health Care Centers.

Effective factors		n	%
Fear of labor	Fear of pain	140	63.6
	Fear of vaginal examination	126	70.7
	Stress and anxiety	99	50
	Unpleasant experience of previous vaginal delivery	42	21.2
Mother health	Prevention of genital tears	133	67.2
	Prevention of Deformation and relaxation in genital system	119	60.1
Embryo health	Embryo health	77	38.9
Offers	Relatives and friends offer	98	49.7
	Doctor & midwife offer	83	42.1
	Husband offer	79	40.1
Tubal ligation	Tubal ligation	38	19.2
Other cases	Precise choice of delivery date	102	51.5
	Not getting the quality of sexual function	64	32.3
	Shorting of delivery time	49	24.7

Table-5. The Relationship Between Attitudes Toward Cesarean Section With Women Demographic Characteristics.

Variable	Subtypes	Score		p
		Average	SD	
Job	Housewife	42.5	14.8	0.001
	Practitioner	60.0	16.7	
Education	Illiterate	42.1	9.5	0.001
	Primary	39.3	14.2	
	Guidance	39.5	15.1	
	Diploma	45.2	16.6	
Age at marriage	Collegiate	56.9	12.7	0.48
	<20 years	45.7	16.9	
	24-20 years	43.2	15	
Husband age	Aged ≥ 25	47.0	16.7	0.13
	24-20 years	43.1	15.1	
	25-29 years	41.5	16.2	
	30-34 years	47.5	15.8	
Husband education	Aged ≥35	46.7	17	0.012
	Illiterate	45.2	11.3	
	Primary	39.3	13.8	
	Guidance	40.9	14.8	
	Diploma	45.9	17.2	
	Collegiate	51.5	16.1	

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