

## Studying the Relationship of Mental Health and Other Factors with Preference of Delivery Method in Women Referred to Qamar Bani Hashem Hospital, Khoy, Iran

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### Abstract

**Background:** Childbirth is a fundamental physical and emotional struggle. This study is an attempt to investigate the psychological factors related to the first delivery, and its relationship with the preference of the type of subsequent deliveries in women.

**Materials and Methods:** This is a descriptive-analytical study in which 380 pregnant mothers referred to Qamar Bani Hashem Hospital in Khoy, Iran, who were hospitalized for childbirth, were selected by simple random sampling. Participants were first asked about their preference for the next type of delivery. Afterwards, the Individual and Social Profile Questionnaire, the Edinburgh Depression Questionnaire, the overt and covert anxiety of Spielberger, and the Wake-Forest questionnaire in the interview method were completed. All data were analyzed using SPSS software version 22.0.

**Results:** There was no significant statistical relationship between psychological variables and the preferred type of delivery. Age, spouse's education level, and income were among the predictors of preference for delivery. These factors had a statistically significant relationship with confidence in the physician in participating women. Apart from income, there was a statistically significant relationship between other social factors with preference of the type of delivery. There was also another significant relationship between complications during childbirth and postpartum with a preference for the type of the next delivery ( $P < 0.05$ ).

**Conclusion:** Based on the results, there was a relationship between socio-individual factors and complications during and/or after childbirth with a preference for the next type of delivery in women. Further studies are needed.

**Key Words:** Cesarean, Delivery, Psychological factors, Women.

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## 1- INTRODUCTION

Pregnancy and childbirth are natural physiological processes, and dramatic and important events in the lives of every woman and her family (1). Childbirth has been one thought of as a blessing from heaven on the planet for humankind, and it has always been so, ever since the birth of man. But with the advances in science and technology in recent decades, humans have achieved new ways with which they can help with surgery, in cases where the mother's or fetus's life was in danger. Caesarean Section (CS) has been introduced in clinical practice as a lifesaving method for mother and the fetus. The practice of cesarean section should, as a rule, be limited to cases where delivery via the natural canal is not possible or has serious risks for the fetus and/or mother. Therefore, the use of caesarean section is limited and specific, and not the preferred method for delivery; because, like every other surgery, it involves many complications and risks for the mother and the baby (2).

Reports show that there are more than 6.2 million unnecessary cesareans performed annually in the world (3). Also, the results of studies show that the prevalence of cesarean section is estimated to be 49% in Iran (4). In the past few years, cesarean section at the request of the mother has become a controversial topic in clinical midwifery. This type of delivery is defined as that of primary cesarean section in accordance with the mother's request, in the absence of medical and midwifery indications (5, 6). Cesarean delivery at the mother's request amounts to about 4 to 18 percent of total cesarean section; however, the validity of this estimate is uncertain (7). The number of cesarean section deliveries is increasing, despite being unrelated to the increased mortality rate of the perinatal period. However, it can itself increase the risk of complications such as maternal mortality, urinary tract damage,

and hysterectomy (8, 9). This is not to mention that the duration of hospitalization and downtime (before returning to normal life) are more in cesarean section. Moreover, natural delivery involves lower blood loss, there are no risks associated with anesthesia, the rate of using Antibiotics is less, feelings of satisfaction and power of the mother and the pleasure of being a mother, reducing the respiratory problems of the baby following the contraction of the baby's chest and quicker intercourse between mother and baby are other benefits of natural childbirth (10).

Throughout the process of labor, women gain valuable experiences that will always remain with them throughout their lives (11, 12). A mother's satisfaction from the experience of childbirth, as much as before, is a determinative factor in her decision on the type of her next delivery (13). The experience of delivery, especially its type, is essential in determining the preference of women for the type of delivery in later pregnancies (14, 15). To develop a standard assessment method, our understanding of the role of women's preferences is limited. A study by Doering et al. (1980) shows that, in addition to the physiological aspects of pregnancy and birth, there are also unique psychosocial and psychosexual aspects in the life of women, which must be considered in selecting the type of delivery (16). The most important determinative of childbearing satisfaction is having individual control (17). Health beliefs or inhibition in beliefs of a person mean whether her health is affected by internal (individual) or external (influential or affluent) factors. The internal status of health inhibition has a relationship with the knowledge and attitude, psychological status, health behaviors and health condition (7). Currently, health beliefs are identified as effective factor in the development of health behaviors, therapeutic capacity and explanation of

health problems (7, 13). In personality psychology, health beliefs indicate individual beliefs of a person in controlling events and/or factors that affect health (18). These might include the degree of an individual's belief in the fact that her internal factors and behaviors are responsible for her illness and health, in the fact that her health is affected by other people, and the fact that her health is governed by fortune, luck and destiny (19, 20). Several studies have shown that the perception of individual control during childbirth is essential for the satisfaction of delivery (16, 21-26). Although pain management is the best short-term solution to provide a better experience of delivery for women, having individual control provides long-term benefits (24). If women actively participate in pain management, they will feel empowered and experience their individual control (27).

Today, women's mental health is considered to be as important as their physical well-being (28). Psychological factors are considered to be essential factors in promoting mental health. According to the definition of the World Health Organization (WHO), mental health is "a state of complete physical, mental and social well-being, and not just a lack of disease". This is achieved by promoting health, preventing mental disorders, and treating and rehabilitating people with psychological problems. A mentally healthy individual realizes her potentials, can cope with natural stresses, work usefully and efficiently, and help herself and her community (28). In addition, researchers and physicians have described the fear of childbirth as a highly contributive subgroup of pregnancy anxiety (29). Women's fears and their attitude toward giving birth might be influenced by receiving maternal care and birth outcomes (28). The negative experiences of women from childbirth are associated with severe psychological

problems, such as the postpartum depression symptoms (30, 31) and other post-mortem disorders and injuries (32), as well as the relationship between the mother and the infant (33). A Negative experience can further reduce the number of births or a longer interval between two pregnancies (34, 35). On the other hand, interpersonal trust is one of the key contributive factors in the physician-patient relationship. Lack of confidence in the physician produces a deeply negative feeling in the patient and is likely to affect the patient's behavior (36). Interpersonal communication between patients and physicians is a key in providing high quality care. This relationship is also influenced by the patient's satisfaction of the treatment and outcome of health care (37-40). Considering the importance of this issue and lack of relevant studies on the psychological factors related to the preference of delivery type in Iranian women, the present paper is conducted based on the studies by the researcher to investigate the psychological and individual factors effective on the choice of delivery method in women living in Khoy city, Iran.

## **2- MATERIALS AND METHODS**

### **2-1. Study design and population**

The present paper is of a descriptive correlational type with an analytical approach. This study was performed on 380 women admitted in the postpartum section of Qamar Bani Hashem Hospital in Khoy, affiliated to Urmia University of Medical Sciences, Iran. Samples were randomly selected based on the eligible visitor statistics of 3 months before in postpartum section and the calculated sample size.

### **2-2. Inclusion and exclusion criteria**

Criteria for entering the study included primigravida women diagnosed by ultrasound who consented to participate in

the study, having a minimum age of 18 and a maximum of 35 years, having at least a third grade of middle school, having no history of divorce and infertility, living with their legal spouse, no use of tobacco, addictive and hypnotic drugs, not employed in tedious and long shifts, and the absence of severe stressful events such as accidents, separation, or death of loved ones in the last 6 months. Exclusion criteria included severe stress during the study, diagnosis of fetal problems and abnormalities throughout the study, diagnosis of maternal or fetal complications, the need to perform a specific type of delivery, problems and diseases that keep the patient from continuing the study, the mother's reluctance or the husband's opposition to continuing to participate in the study, and pre- or post-term delivery.

### **2-3. Methods**

After explaining the goals of the study and obtaining written consent, eligible people completed the questionnaire. The participants were later admitted to the health center for further care after 8 weeks from childbirth.

### **2-4. Measuring tools**

In this research, variables such as age of the mother and the husband, their age at the time of marriage, their education level and type of job, the affording living expenses, etc. were investigated by a socio-demographic questionnaire. Multidimensional Health Locus Control (MHLC) was used to measure health beliefs. The MHLC scale includes three components with six Likert criteria and includes (IHLC) HLC Internal, (PHLC) HLC Powerful Others and (CHLC) HLC Chance which measures the internal health of people. This questionnaire consisted of A and B forms, and all of the items had six options with scores from 1 to 6. Consequently, an individual score varied from 6-36 for each item and which were

not added together and were estimated independently. This questionnaire was completed within 8 weeks after delivery by the participants. Regarding the validity of Form B, simultaneous validation methods, content, and especially the structure were used according to many studies conducted in other countries. The content reliability was determined based on the recommendations of researches and studies. Cronbach's alpha coefficient for Internal, Powerful Others and Chance components in Form B is 0.70, 0.75, and 0.69, respectively (41). Except for the questionnaire of preference for the next type of delivery and the questionnaire of individual social characteristics, other tools are standard and have been used in Iran as well (42-44). These two questionnaires were referred to ten faculty members to determine the validity of the content and after collecting their reviews, the necessary corrections were made based on the feedback received. The Wake-Forest questionnaire was also used to measure the trust in the physician, which consists of eleven questions with five Likert with scores of 1 (completely disagree) to 5 (completely agree).

This questionnaire assesses the patient's trust in the physician (45). It has three dimensions of: the trust and confidence in the physician, self-confidence of the physician in their knowledge and skills, and confidentiality and reliability of information received by the physician. In calculating the scores, items 1, 4, 7, and 11 are estimated in reverse (46). The scores from this questionnaire were collected for each individual physician and expressed as a percentage from zero to 100% and an average scores for each scale. Higher scores indicated more trust (46, 47). The questionnaire was completed by participants during 6 to 8 weeks after delivery. In the present study, by performing pre- and post-examination on 30 people, the reliability of the two

dimensions of reproducibility and internal coherence was determined. The confidence interval was 95% and Cronbach's alpha coefficient 0.71 ( $\alpha = 0.71$ ) for the physician confidence measured in the ref questionnaire. The validity of this study is standard and has been used before in Iran (48).

## 2-5. Ethical consideration

The ethical considerations observed in this study are: obtaining a license from the ethics committee of Tabriz University of Medical Sciences to the code number of ethics and obtaining a letter of introduction from the Tabriz School of Midwifery Nursing, introducing the study and researchers to the officials of Qamar Bani Hashem Hospital in Khoy, and obtaining permission to conduct research in that center. The researcher himself introduced to the participants and explained the research objectives, and obtained their written consent and assured them of the confidentiality of patients' information.

## 2-6. Data Analyses

In order to achieve the results of the research, the questions of the questionnaire

were first coded and then entered into the computer by SPSS software version 22.0 and analyzed with the same software using descriptive and inferential statistics. Descriptive statistics, including mean (standard deviation) and frequency (percentage) for quantitative and qualitative variables, were used to describe individual-social characteristics, Edinberg's depression, Spielberger's anxiety, REF, and the multifaceted scale of the Health Control Center. The normality of quantitative data was examined using Skeweness and Kurtosis tests, where all variables were normal. P-value <0.05 was considered significant.

## 3- RESULTS

The mean age of the participants was  $24.24 \pm 5.1$  years. Most of the patients were housewives (89.2%) and had secondary education (38.4%). Also, the majority of their spouses had non-governmental employment (57.1%) and secondary education (31.3%). The majority of participants lived in their own house, and 68 percent said their income was adequate (**Table.1**).

**Table-1:** Individual Social Characteristic of Participants.

Individual social characteristic	Number (percent)	Individual social characteristic	Number (percent)
Education		Occupation	
The Junior School	146(38.4)	Housewife	339(89.2)
The high School	134(35.3)	Student	23(6.1)
Higher	100(26.4)	Employed	16(4.2)
Earnings		Are you satisfied with your housing situation?	
Less than the limit	117(30.8)	Totally satisfied	110(28.9)
Limit	261(68.7)	Fairly satisfied	184(48.4)
More than the limit	2(0.5)	Indifferent	16(4.2)
Spouse's Occupation		Fairly dissatisfied	42(11.1)
		Absolutely dissatisfied	28(7.4)
Worker	87(22.9)	Spouse's education	
Employed	56(14.7)	Illiterate	16(4.2)
Free	217(57.1)	Primary	76(20)
Student	6(1.6)	Junior school	81(21.3)
Other	14(3.7)	High school	119(31.3)
Type of residence		Higher	88(23.2)
Rented	117(30.8)	Age	
Personal	261(68.7)	Mean (standard deviation)	
Other	2(0.5)	24.24(5.10)	

The results of the Spearman correlation test showed that the average score of trust in the physician was 21.96 (SD=5.76) from the achievable score of 5-50. The statistical test showed no statistically significant relationship between the preference of delivery type and the rate of confidence in the physician. Moreover, the

results indicated that the average score of internal health was 139.43 (SD=29.85) from the achievable score of 5-180. The statistical test showed significant relationship between the preference of delivery type and internal health score (**Table. 2**).

**Table-2:** Relationship between Psychological Variables, with the Preferred Method of Delivery for Women Participating.

Variables	Preference for delivery type		
	Mean (SD)	$\beta$ (95% CI)	P-value
Trust the doctor	21.96 (5.76)	0.14(1.67-0.80)	0.42
Inner health	139.43(29.85)	-0.02(1.19-0.79)	0.81

SD: Standard deviation, CI: Confidence Interval.

Regarding the relationship between individual social factors and the preference of delivery type, the results showed that there was a statistically significant relationship between age, level of education, occupation, spouse's education, spouse's occupation, and the type of housing with the preferred type of delivery. Among these data, age, spouse's education, income were the predictors of

the preference for delivery type (**Table. 3**). In this study, the variables that were statistically significant in the analysis of one variable with the preference type of delivery were entered into the regression test. Among these data, age, spouse's education, and the amount of income were the component of the predictive factors of preference of delivery method (**Table. 3**).

**Table 3.** Estimation of Linear Regression Coefficient for Predictive Factors Underlying Preference for Delivery Type.

Variables	Regression coefficient	95% CI		The possibility of significant	
		Minimum	Maximum		
Age	0.95	0.90	0.99	0.02	
Spouse's education	Spouse's education			<0.001	
	Illiterate	3.91	1.13	13.55	0.001
	Primary	5.53	2.46	12.42	0.03
	Junior school	3.34	1.60	6.99	<0.001
	High school	2.66	1.43	4.97	<0.001
	Higher	Reference			
Earnings	Earnings			<0.001	
	Less than the limit	0.86	0.03	21.82	0.92
	Limit	0.64	0.08	53.72	0.64
	More than the limit	Reference			

CI: Confidence Interval.

#### 4- DISCUSSION

In the present study, the psychological and individual factors concerning the birth of the first child and their relationship with the preference of the next type of delivery were studied in the women referred to Qamar Bani Hashem Hospital in Khoy, Iran. The findings of the study indicated that there was no statistically significant relationship between the preference of delivery type and the confidence in the respective physician. The researchers did not find a study in the literature review that had examined the level of trust of women in their doctors who assisted delivery; yet it seems that cultural differences in women living in other geographic regions might lead to different results from the present study. The findings of the study by Mollison et al. (2005) indicated that there was no correlation between cesarean section and the type of delivery for the next childbirth. It was mentioned that determining a negative relationship between cesarean deliveries and subsequent pregnancy requires more research (49).

Also, in the study of Kjerulff et al. 2013, no significant relationship was found between the type of delivery at the present time and the next (50). The results of this study also showed that there was no statistically significant relationship between the preference of delivery type and internal health score. Wiklund et al. showed a statistically significant relationship between health and type of delivery, which is not consistent with the present study (7). The reason might be that the present study targeted mothers who have stated their health as a factor in their choice of the type of delivery, and also the place study. A study by Chen et al. (2006) found that midwifery interventions and pregnancy problems in the first delivery were

associated with an increase in surgery in the second pregnancy (51-53). A study by Pang et al. in 2008 showed that one quarter of the participants had a tendency to change their delivery type after birth of their first child. The study also found a significant relationship between cesarean deliveries and maternal anxiety (54). In a study by Chalmers et al., in 2010, the results showed that women who underwent cesarean section received more interventions, and the results were preferred by parents (55). The findings related to individual social factors and the preferred type of delivery showed that there was a statistically significant relationship between age, education level, occupation, spouse's education, spouse's job and type of residence with the preferred type of the next delivery. It was observed that higher age, level of education, level of education of the spouse, the type of residence and spouse's employment increases the demand for delivery of cesarean section.

Mancuso et al. determined the labor, individual and social factors affecting women's preference for a normal delivery or cesarean section. They found a significant relationship between age and education level with the preferred method of the next delivery, which is in agreement with the present study (26). The study of Shahbazzadegan et al. (2009) also showed that there was a significant relationship between education level and the type of future delivery, which is again in agreement with our study (56). The findings of Dadashi et al., 2013 indicated that individual factors such as income and education etc. are not related to the choice of delivery by cesarean section, and the main reason for choosing a delivery by cesarean section is mostly fear of pain during labor with natural delivery, which is not consistent with the results of our study (57). This is probably

due to the cultural differences between the studied samples; although several other studies have also shown that experience of pain during labor is effective in lower satisfaction from normal delivery (23, 24, 53, 58, 59).

#### 4-1. Study Limitations

This study, like other studies, included some limitations:

1. Because this research has been done on women in Khoy city, therefore, its results may not be generalized to the whole society.
2. Another limitation of this study is its cross-sectional nature that the relationships shown between psychological factors, the type of delivery and the individual-social characteristics are not necessarily indicative of a causal relationship.
3. Considering that in this study, sampling was conducted in an Azeri Language city; therefore, due to the cultural differences of society, the result of this study may not be generalized to mothers of other cities.
4. Due to the high prevalence of cesarean section in Iran and the results of this study, it seems that the lack of a private hospital in the city, and the concurrence of research implementation with the health promotion plan and barriers created in conducting cesarean section, according to the levels of individuals' earning have influenced the mothers' decision making. Therefore, it is suggested that this study be carried out with the same title in other cities of the country and its results should be compared with the present study, taking into account different cultural and climatic conditions.

#### 5- CONCLUSION

No relationship was found between depression, anxiety, confidence in the physician, and beliefs about health with a preference for the next type of women's delivery. It was also found that there exists a relationship between some individual

and social factors including age, level of education, job, spouse's education, spouse's job, type of residence, and preference for the type of subsequent childbirth of women. In addition, the choice of the next type of delivery for women can be affected by the level of complications during and/or after childbirth.

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**7- CONFLICT OF INTEREST:** None.

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