

The role of high-risk pregnancy in childbearing tendency in Tehran

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ABSTRACT

Background and purpose: The decreased tendency toward childbearing is considered as one of the most social issues. High-risk pregnancy problems and the fear of recurrence can reduce the desire for re-pregnancy. The purpose of this study was to determine the relationship between high-risk pregnancies in childbearing tendency. **Materials and Methods:** This descriptive study was cross-sectional. The statistical population included married women aged 15–49 years with at least one previous pregnancy. 928 women with histories of low-risk and high-risk pregnancy were selected by applying a continuous sampling method. The demographic information form and childbearing desire questionnaire were used. The data were analyzed by SPSS-16 and applying descriptive statistics tests, mean and standard deviation, inferential statistics, regression, independent *t*-test. **Findings:** The mean of childbearing tendency in mothers with a history of high-risk pregnancy and low-risk pregnancy were 3.25 ± 5.43 and 8.65 ± 3.96 , respectively. Before modifying the intervention variables, the mean scores of childbearing desire were significantly different in mothers with a history of low-risk pregnancy and high-risk pregnancy; it was higher in mothers with a history of low-risk pregnancy ($P < 0.001$). After modifying the variables of the ideal number of children, the mothers' attitude toward childbearing desire, and the number of natural childbirths, stillbirths, and miscarriages. The difference was not significant ($P = 0.263$). **Conclusion:** Childbearing tendency was not different in women with a history of low-risk pregnancy and those with a history of high-risk pregnancy.

Keywords: Childbearing tendency, history of high-risk pregnancy, low-risk pregnancy, woman

Introduction

Childbearing desire refers to the couple's intention to have a child,^[1,2] and it is one of the most fundamental rights of both men and women.^[3] Childbearing is one of the significant components in demography. It is also regarded as an important subject in social issues. Fertility is the most important issue determining population fluctuation, and population policies are mainly influenced by fertility increase or decrease.^[4]

The evidence indicates that the general fertility rate has reduced in both developed and developing countries.^[5] Iran is one of the countries suffering from a severely reduced fertility rate over recent years. A 50% reduction of fertility rate has made Iran unique among Muslim countries; this rate has never been observed in any other country.^[6] Despite the changes made in the government's policies toward population control, it is predicted that the Iranian population growth will have reduced to less than 1% in 20 years.^[7]

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At present, Iran is one of the 10 countries in the world that is rapidly moving toward aging. Moreover, Iran is the sixth country whose people are moving toward aging and experience the second phase of aging over the next 10 years. The demographics maintain that the public fertility is alarming and distressing and;

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it is essential that the reduction factors be investigated and the policies for increasing the population be reformed.^[8]

Researchers maintain that the factors relating to childbearing attitude include religious factors (religious beliefs and responsibility), physical and identity factors (the spouse's attitude, attitude toward beauty, marital stability, the child's gender, breastfeeding problems), social and cultural factors (advertisements, education, women's employment, increased life expectancy), economic factors (welfare, economic status, inflation, housing, and occupational stability).^[9] The childbearing desire is closely associated with factors including marriage age, the number of children, spouse's age, the first-time pregnancy age, education, participation in economic/social/and cultural events and fields of the society, women's employment, and the lack of welfare facilities and supports provided by governments.^[10]

Pregnancy, one of the most important phases in women's lives, is extremely enjoyable for women.^[11] In women with high-risk pregnancy in comparison to women with natural childbirth, given their concerns about fetal health.^[12]

The Centers for Disease Control and Prevention (CDC) reports that 65,000 women in the United States suffer from high-risk pregnancies each year with severe complications from high medical, hospital, and rehabilitation costs. In the United States, high blood pressure, postpartum hemorrhage, and deep vein thrombosis are the most common complications of high-risk pregnancies.^[13] They are twice likely to suffer from depression and its consequent hormonal changes. Women with high-risk pregnancies deal with serious dangers in their personal, family, and social life; these dangers disrupt the performance of not only the women but also their families.^[12]

The most important factors leading to a high-risk pregnancy include maternal malnutrition, pregnancy at a very young age or higher than 35, short intervals between pregnancies, pregnancy for more than five times, Preeclampsia, placental abruption, preterm birth, the mother's suffering from underlying diseases, the mother's addiction and deprivation of pregnancy care.^[1,2,14,15]

In most of the developing countries, the complications of pregnancy, and delivery account for the main cause of mortality in women.^[12] Bajalan (2019) has reported the frequency of high-risk pregnancy to be 75.6%.^[16] High-risk pregnancies threaten maternal and fetal health and have negative effects on the families as well. In fact, more than 50% of women deal with one of the risk factors of pregnancy. Most of the risk factors are related to previous pregnancies, history of miscarriage, cesarean history, and history of underlying diseases. It is recommended that the researcher investigate the negative health effects of high-risk pregnancies on mothers, fetuses, and infants. Moreover, it is advisable that the economic effects of high-risk pregnancies be investigated.^[17] Unwanted pregnancies have significant consequences for the health and

well-being of women and children.^[18] So, it is important to pay attention to the relationship between the problems of high-risk pregnancies and the tendency to have children. On the other hand, one of the important population policies in Iran is population growth and childbearing, which is widely promoted and taught by midwives and health care providers in comprehensive health centers. Maternal and neonatal care is provided by midwives and health care providers. No study has been conducted on the role of high-risk pregnancies in mothers' desire to have children. Provide funding based on the country's population policies, and care plans should be made to achieve the country's major goals of childbearing and population development. Thus, the present study was planned and conducted to investigate the effect of high-risk pregnancy on childbearing desire. The results of the present study are supposed to be applied by those involved in providing services in the health system so that they can plan higher quality services for the mothers and prevent the country's population decrease.

Methods

The present cross-sectional study was conducted on 928 married women aged 15–49 years. The inclusion criteria were: having at least one pregnancy; having a living husband, and settling in Tehran. The samples had referred to the hospitals (Shahid Akbar Abadi Hospital, Rasoul Akram Hospital, and Firooz Abadi Hospital) supported by Iran University of Medical Sciences from March 2018 to March 2020. The data collection tools of the present study include demographic questionnaire, fertility questionnaire, and Montazeri *et al.*'s questionnaire of desire and lack of desire for childbearing (2017).^[19] The childbearing desire was investigated through 15 questions on a Likert scale ranging from completely agree to completely disagree. The validity of the tool had been already confirmed by the professors of Iran University of Medical Sciences. Moreover, the tool's reliability was a measure to be 0.83 in a retest.

The study was conducted after obtaining the required permit from the Ethics Committee of Iran University of Medical Sciences (with the registration code of IR.IUMS.REC.1397.0801). The samples had also provided their informed letter of consent. They were assured that the information would be kept confidential, and the participation in the study would be voluntary. Based on the following formula, the sample size was measured to be 928; as many as 464 mothers had a high-risk pregnancy, and 464 mothers had low-risk (natural) pregnancy.

$$n = \frac{Z^2_{1-\alpha/2} \times p \times q}{d^2} 928 = n = \frac{(1/96)^2 (0/32)(0/68)}{(0/03)^2}$$

The data were analyzed by using SPSS-16 and applying descriptive statistics tests of mean, variance, and standard deviation and correlation tests, independent *t*-test, Chi-squared test, and Fisher's exact test.

Findings

There was no significant difference between the two groups (i.e., mothers with a history of natural childbirth and others with a high-risk pregnancy record) in terms of mean age, spouse age, marriage duration, the first-time pregnancy age, number of children. However, there was a significant difference between the two groups in terms of the ideal number of children ($P < 0.001$). There was no significant difference between the two groups in terms of the number of natural childbirth ($P = 0.076$). However, there was a significant difference between the groups in terms of the number of cesarean sections ($P < 0.001$); the mothers in the high-risk group had experienced more cesarean sections. Moreover, there was a significant difference between the two groups in terms of the number of miscarriages and childbearing desire ($P < 0.001$). As many as 78% of mothers with a history of high-risk pregnancy did not have any childbearing desire, while 87.5% of mothers with a history of natural and low-risk pregnancy had a childbearing desire [Table 1].

The mean childbearing desire was 3.25 ± 5.43 in high-risk pregnant mothers and 8.67 ± 3.96 in mothers with a history of low-risk and natural pregnancy. Before modifying the interference variable in both groups, there was a significant difference between the two groups (mothers with high-risk pregnancy and those with low-risk pregnancy) in terms of the mean the score of childbearing desire; the mean score was higher in low-risk pregnancy mothers ($P < 0.001$). However, this difference was not significant ($P = 0.263$) after modifying the variables including the ideal number of children, mother's attitude toward childbearing desire, and the number of natural childbirths, stillbirths and miscarriages being different in both groups.

Investigating the lack of desire for childbearing in both groups indicated that before modifying the interference variables in both groups, the mean score of lack of desire for childbearing in high-risk pregnancy mothers was significantly different from

that of high-risk pregnancy mothers; it was higher in high-risk pregnancy mothers ($P < 0.001$). However, the mean score of lack of desire for childbearing was significantly higher in low-risk pregnancy mothers ($P < 0.001$) after modifying the interference variables including the ideal number of children, mother's attitude toward childbearing desire, and the number of natural childbirths, stillbirths, and miscarriages being different in both groups [Table 2].

According to the results obtained from the linear regression [Table 3], the factors affecting childbearing desire include the number of children, the ideal number of children, the history of miscarriage and stillbirth, the mothers' attitude toward childbearing, the history of high-risk pregnancy, the history of cesarean section, and educational level; the ideal number of children had the most significant effect on childbearing desire ($P < 0.001$).

Discussion and Conclusion

The mean scores of the groups' high-risk pregnancy mothers and low-risk pregnancy mothers were not significantly different in terms of variables such as age, spousal age, marriage duration, first-time pregnancy age, number of children, and natural childbirth. However, the mean scores of the groups were significantly different in terms of the ideal number of children, the number of cesarean deliveries, and the history of miscarriage and stillbirth. The groups were similar in terms of demographic features and delivery-related variables. However, there was no significant difference between the groups after modifying the variables including the ideal number of children, mothers' attitude toward childbearing desire, the number of cesarean deliveries, and the number of miscarriages and stillbirths. Thus, it can be concluded that the modified variables are the factors affecting the childbearing desire in both groups of mothers.

As for women whose ideal number of children was 4, the childbearing desire was significantly higher than that of women

Table 1: The Comparison of two groups of mothers with histories of high-risk and low-risk pregnancy based on frequency

Variable	Pregnancy experience		Total	P
	Low-risk	High-risk		
Age	36.56±5.63	36.27±5.75	36.46±5.69	P=0.493
Spouse's age	39.88±6.23	39.64±6.85	39.76±6.55	P=0.713
Marriage duration	12.41±6.18	11.49±6.01	11.49±6.1	P=0.129
the first-time pregnancy age	27.43±3.19	27.43±2.88	27.43±3.03	P=0.995
number of children	1.25±0.74	1.23±0.75	1.24±0.74	P=0.768
Ideal number of children	2.31±0.85	1.64±0.73	1.98±0.85	P<0.001
Type of delivery				
Caesarean	266	318	584	P<0.001
Natural	246	223	469	P=0.76
total	512	541		
Miscarriage and stillbirth	9	50	59	P<0.001
Childbearing desire				
They don't have	58 (12.5)	362 (78.01)	420	P<0.001
They have	406 (87.5)	102 (21.98)	508	
Total	464	464	928	

whose ideal number of children was 1, 2, or 3; the mean score obtained was significantly higher. According to the findings obtained from the linear regression, for every increase in the number of children, the childbearing desire reduced five times. However, given the participants' answers, when it came to the increase in the ideal number of children, the childbearing desire increased 11 times.

The findings of a study conducted by Tavousi *et al.* (2017) indicated that as much as 72% of childbearing desire is determined by the inadequate number of current children (lacking the ideal number of children); this proves that the ideal number of children is a determining factor for childbearing desire.^[20] Moreover, in another study conducted by Piltan and Rahmanian (2015), it has been indicated that the ideal number of children have the most significant effect on childbearing desire.^[21]

Some factors have affected the pregnancy process in both groups; they have influenced the mean score of childbearing desire. The mean score of childbearing desire was 3.25 in high-risk pregnancy

mothers, while it was 8.65 in low-risk/natural pregnancy mothers; this indicates the lower childbearing desire in high-risk pregnancy mothers. According to the findings obtained from linear regression, it was indicated that for every increase in the number of miscarriages and stillbirths, the childbearing score increases 6 times. Miscarriage and stillbirth are closely related to childbearing desire; the mean score of childbearing desire was significantly higher in women with a history of miscarriage and stillbirth. Thus, a history of miscarriage and stillbirth increases parents' desire for the birth of the next child that is commonly the first child.

In their study, Rad and Savabi (2015) indicated that mother's age has the most important effect, and social status has the least important effect on women's childbearing desire.^[22] This is not in line with the findings of the present study. The findings of the present study indicated the opposite result; women's age was not a direct factor creating pregnancy risks and affecting childbearing desire in both groups. Thus, it can be concluded that the problems and risks experienced in pregnancy are the determining factors for mothers' lack of childbearing desire.

Table 2: The comparison of high-risk pregnancy and low-risk pregnancy mothers based on numerical indices

Pregnancy experience	Low-risk	High-risk	P
Childbearing desire			
Raw model	8.65±3.96	3.25±5.93	t test (P<0.001)
Modified model	8.12±0.48*	7.61±0.33*	P=0.263
Lack of desire for childbearing			
Raw model	2.44±6.63	10.11±7.45	P<0.001
Modified model	7.99±0.67*	5.74±0.47*	P<0.001

*Deviation from error

As for cesarean section, the findings of the present study indicated that any history of each high-risk pregnancy and cesarean section will respectively decrease the childbearing desire 2 and 3 times. Mothers with a history of high-risk pregnancy have undergone more cesarean sections than mothers having a history of low-risk cesarean. Safari *et al.* (2008) concluded that when pregnancy is associated with chronic medical problems and pregnancy complications, mother's stress increases. Women experiencing high-risk pregnancies deal with numerous physical,

Table 3: The results of linear regression of factors affecting the childbearing desire

Personal characteristics	Coefficient	Standardized coefficient	Test statistic	Significance level	R ²
Marriage duration	-0.012	-0.013	-0.422	0.673	
Number of children	-2.36	-0.315	-4.974	<0.001	0.747
Ideal number of children	3.334	0.512	11.23	<0.001	
Number of natural childbirth	-1.394	-0.151	-2.588	0/01	
Number of caesarean section	-1.281	-0.156	-2.61	0.009	
Number of miscarriage and stillbirth	4.078	0.185	6.183	<0.001	
Educational Level					
Reading and writing	1.375	0.064	1.601	0.11	
High school diploma	2.126	0.146	2.878	0.004	
BA or BAS	0.335	0.031	0.588	0.557	
MA or MS					Reference category
Spouse's educational Level					
High school diploma	0.723	0.053	0.807	0.42	
BA or BAS	0.679	0.06	0.827	0.408	
MA or MS	0.527	0.032	0.615	0.539	
Ph.D.					Reference category
Mothers' desire for childbearing					
They have	3.953	0.36	7.235	<0.001	
They don't have					Reference category
The history of high-risk pregnancy					
They have	-0.936	-0.085	-2.2	0.028	
They don't have					Reference category

psychological, socioeconomic complications imposed because of nature of the required treatment and their potential needs for long-term care in both home and hospital; they are inevitably forced to adapt their lifestyle to the new conditions associated with negative effects, stress, and concern for both mothers and their families, and this can affect mothers' childbearing desire.^[23] This is in line with the findings of the present study in the initial phase and before modifying the variables. However, after modifying the interference variables, it was indicated that mothers with high-risk and low-risk pregnancy was not significantly different in terms of their childbearing desire.

The findings of the present study indicated that the childbearing desire in women with two previous natural childbirths is significantly higher than that of the women with one natural childbirth and those with no natural childbirth. Moreover, the childbearing desire in women with two cesarean sections was significantly lower than that of the women with one cesarean section and those with no cesarean section. Given the problems and hardships of their previous pregnancy, cesarean mothers are less willing for a new pregnancy, and cesarean section has more limitations for the subsequent deliveries. Due to the problems arising from the cesarean section, it decreases mothers' childbearing desire^[17]; this is in line with the findings of the present study.

In conclusion, given the findings of the present study, from among the demographic factors, the ideal number of children have the most significant effect on childbearing desire. Thus, other researchers are recommended to conduct a similar study on patients referring to private hospitals, so that the childbearing desire of more affluent people will be investigated.

Summarize the key points

Mothers' Attitudes wanted child, a history of high-risk pregnancy, cesarean and her level of education is effective in her desire to have children.

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Declaration of patient consent

Individuals with inclusion criteria were invited to participate. After his consent and being informed of the research process, informed and freely informed consent was obtained. Confidentiality of information and voluntary participation in the study were assured.

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Conflicts of interest

There are no conflicts of interest.

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