

Comparing the Fertility Desire and Related Factors in Mothers with Intellectually Disabled Children and Mothers with Healthy Children

Abstract

Background: The birth of a child with an intellectual disability is a common event. The fertility desire plays an important role in healthy reproductive programs. This study was conducted to compare the fertility desire and related factors in mothers with intellectually disabled and healthy children. **Materials and Methods:** The present study was a descriptive, cross-sectional study. The sample size consisted of 348 mothers with healthy and intellectually disabled children (174 per group). Sampling was performed at normal (six schools) and special primary schools (twelve schools) in Isfahan, Iran using stratified random sampling method. Attitude, subjective norms, perceived behavior control, and gender preference were assessed using a researcher-made questionnaire and psychological well-being using Ryff questionnaire. Data were analyzed by descriptive statistics, Independent *t*-test, Mann–Whitney U test, Chi-square test, and Logistic regression using SPSS 24. **Results:** In this study, 21.84% of mothers with healthy children and 13.79% of mothers with intellectually disabled children were willing to have other children. The fertility desire in mothers with intellectually disabled and healthy children decreased as their numbers of children (CI 95% =0.14-0.42) and age increased (CI 95% =0.80-0.93) by 0.87 and 0.24, respectively. There was statistically significant difference in mean score of psychological well-being between the two groups of mothers with fertility desire ($p = 0.017$). There was no statistically significant difference in mean score of attitude, subjective norms, perceived behavior control, and gender preference ($p > 0.05$). **Conclusions:** Apparently the awareness of fertility desire and related factors in mothers with healthy and intellectually disabled children may be helpful in healthy fertility counseling.

Keywords: Child, fertility intellectual disability, mothers

Introduction

Childbirth is the most important event in any family.^[1] The birth of a child with an intellectual disability is a common traumatic event that parents may experience.^[2] The prevalence of this disability is about 3% worldwide and there are about 1,200,000 people with intellectual disabilities in Iran. There are three types of intellectual disability: mild, moderate, and severe. In the mild or training type, the IQ is between 50 and 70, in the moderate or trainable type, it is between 35 and 50, and in the severe type, the IQ is between 20 and 35.^[3] Having a child with an intellectual disability can cause many problems in the family, especially for mothers, including the creation or intensification of family disputes, increased feelings of shame and tolerance of others' words, and decreased psychological well-being.^[4] Shin *et al.*^[5]

indicated that stress, emotional problems, and psychological concerns were higher in mothers of children with disabilities than mothers with healthy children.

Previous experience of having a disabled child has been considered as an effective factor in mothers' desire to have children. Wehby and Hockenberry^[6] found that certain physical conditions in the child such as a disability or very low birth weight did not affect the fertility rates of the participants, whereas Macinnes indicated that mothers, whose first child was disabled, were less likely to have a second child than mothers with healthy children. Furthermore, mothers with disabled children may want to have another child because of their own or others' expectations of having a child with normal growth and activities.^[7] In this regard, results of research by Sousa-Leite

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Access this article online

Website: www.ijnmrjournal.net

DOI: 10.4103/ijnmr.IJNMR_450_20

Quick Response Code:



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How to cite this article: Sheidanik S, Savabi-Esfahani M, Shahverdi-Asadabadi Z. Comparing the fertility desire and related factors in mothers with intellectually disabled children and mothers with healthy children. Iran J Nurs Midwifery Res 2022;27:18-23.

Submitted: 16-Jan-2021. **Revised:** 20-Feb-2021.

Accepted: 02-Oct-2021. **Published:** 25-Jan-2022.

et al.^[8] indicated that a negative attitude might be associated with lower fertility rates. Furthermore, results of a study indicated that women with healthy children whose parents or husbands believed that they should have other children reported greater tendencies to have children,^[9] whereas another study reported that the individuals' subjective norms was not a determinant of desire to have children.^[10] A person's sense of self-ability and understanding of internal and external sources to attempt childbearing may affect the desire to do such behavior.^[11] Williamson and Lawson studied women over 30 years and found that those with higher perceived behavioral control scores had higher the fertility desire.^[12] Furthermore, Rai *et al.*^[13] studied the association between gender preference and fertility intention and found that women whose first child was a girl had a higher tendency towards childbearing than those who had a boy. However, the previous child's sex might not be related to the desire to have more children.^[14]

Having a child can also affect some aspects of life, including the mothers' psychological well-being and changes in psychological well-being after the birth of the first child might affect the desire to have a second child.^[15] Matsuo and Matthijs^[16] studied people with healthy children and found that those with higher psychological well-being had higher tendencies to have another child. The importance of investigating factors relating to mothers' fertility desire has increased due to the declining fertility rates in many developed and developing countries in recent years.^[17] In general, a variety of studies have been conducted on the tendency to childbearing in mothers with healthy children,^[18] but there are few studies on mothers with disabled children. Wehby and Hockenberry^[6] indicated that mothers of children with intellectual disabilities may increase the number of their children due to the desire to have healthy children, as the total fertility rate has been declining in three decades in Iran.^[17] Therefore, there is a need for such study because of the importance of the fertility desire, both in mothers with healthy children and mothers of children with intellectual disabilities as target groups of healthy reproduction programs, as well as inconsistencies in various studies. There was no research on the comparison of the fertility desire between the two groups of mothers; the present study aimed to compare the fertility desire and related factors in mothers with intellectually disabled children and mothers with healthy children.

Materials and Methods

This descriptive, cross-sectional study was conducted from December 2019 to January 2020. The sample size consisted of 348 mothers with healthy children and mothers with intellectually disabled children (174 per group). A 95% confidence level is equal to 1.96. The test power factor of 80% is equal to 84% and $d = 0.29$. Inclusion criteria were being mothers at the childbearing age (15–49 years),

having at least primary education, not having psychological or psychiatric disorders and having at least a child with educable intellectual disability (IQ of 50-70) in mothers with disabled children.

Sampling was performed at normal and special primary schools for students with intellectual disabilities in Isfahan, Iran using stratified random sampling. First, list of normal primary schools and schools for students with intellectual disabilities was prepared. Then, three of six districts of Isfahan welfare organization and three of six districts of exceptional education organization of the city were selected using a random number table. From each district, an intellectual disability school for girls and an intellectual disability school for boys were randomly selected (a total of 12 from 24 schools). Also three of the six districts of General Department of Education of Isfahan were randomly selected. From each district, a boy's school and a girl's school were randomly selected (a total of six schools from 33 schools). Afterward, mothers were randomly selected using a random number table. Then they were called and asked to attend a face-to-face meeting in coordination with the centers. After mothers' attendance at the schools and explaining the research objectives, a written consent was obtained from them, and then the research questionnaires were distributed.

Data collection tools included a questionnaire of demographic characteristics and a questionnaire of related factors to the fertility desire. At the beginning of the second questionnaire, the fertility desire was measured using the question "Do you want to have another child?" Then, questions were asked about attitude ($n = 9$), subjective norms ($n = 4$), perceived behavior control ($n = 7$), gender preference ($n = 6$), and psychological well-being ($n = 18$). The questionnaire for measuring the attitude, subjective norms, perceived behavior control, and gender preference was researcher-made. The total values of Content Validity Ratio (CVR) and Content Validity Indicator (CVI) of the questionnaire were obtained as 0.55 and 0.87, respectively. Reliability (Cronbach's alpha coefficient) of attitude, subjective norms, perceived behavior control, and gender preference questions were 0.73, 0.72, 0.73, and 0.74, respectively. The standard and short form Ryff's Scale of Psychological Well-Being (RSPWB) were utilized to assess the mothers' psychological well-being.^[19] The validity and reliability of the questionnaire were reported by Sefidi and Farzad to be 0.76 and 0.73, respectively.^[20] The attitude, subjective norms, perceived behavior control, and gender preference were assessed using the 1-to-5-point Likert scale (from strongly agree to strongly disagree) and also psychological well-being using a 1-to-6-point Likert scale (from strongly agree to strongly disagree). Mean scores of attitude, subjective norms, perceived behavior control, gender preference, and psychological well-being were calculated and higher scores of each item indicated higher fertility desire. The data was analyzed by descriptive

statistics (number and percentage), Independent *t*-test, Mann–Whitney U test, Chi-square test, and Logistic regression using SPSS 24 (Armonk, NY: IBM Corp). Significant level was < 0.05 .

Ethical considerations

The study was approved by the Ethics Committee of Isfahan University of Medical Sciences with code number (IR.MUI.RESEARCH.REC.1389.318). All participants were assured of the confidentiality of data and they had the right to refrain from participating at any point without negative consequences. The written informed consent forms were also obtained from research units after explaining the research.

Result

The mean and standard deviation of age of mothers with intellectually disabled children and mothers with healthy children were 38.23 (4.76) and 34.75 (4.35), respectively. The results indicated that the difference in mother's age was statistically significant ($p = 0.001$). The results of the present study also revealed that the mean and standard deviation of the number of children with intellectual disabilities were 2.21 (0.92) and were 1.93 (0.66) for healthy children. The results indicated that the difference was statistically significant ($p = 0.002$).

The results showed that there was statistically significant difference in mother's education level with intellectually disabled children and mothers with healthy children ($p < 0.001$). This indicated that there was a statistically significant difference in the frequency distribution of job between mothers of children with intellectual disabilities and mothers of healthy children ($p = 0.032$). Most of the mothers of children with intellectual disabilities (60.34%) and mothers with healthy children (82.76%) had moderate economic status. The results also indicated that the frequency distribution of economic status had a statistically significant difference in mothers of children with intellectual disabilities and mothers of healthy children ($p < 0.001$). Most of the healthy children (53.45%) and children with intellectual disabilities (59.19%) were boys. The results showed that the frequency distribution of gender of children with intellectual disabilities and healthy children was not statistically different ($p = 0.432$) [Table 1].

According to the results the odds ratios of the fertility desire in mothers with intellectually disabled children and mothers with healthy children decreased as their numbers of children (CI 95% = 0.14- 0.42) and age increased (CI 95% = 0.80-0.93) by 0.87 and 0.24, respectively. Results also indicated that 38 (21.84%) of mothers with healthy children and 24 (13.79%) of mothers with intellectual disabilities were willing to have other children.

The results indicated that the mean scores of psychological well-being in mothers of healthy children, who were

willing to have other children, were higher than mothers with intellectually disabled children and the difference was statistically significant ($p = 0.017$). The mean scores of perceived behavior control and gender preference were higher in mothers with intellectually disabled children, but the mean scores of attitude and subjective norms were higher in mothers with healthy children. However, there were no statistically significant difference in mean score of attitude, subjective norms, perceived behavior control, and gender preference between the two groups of mothers with fertility desire ($p > 0.05$) [Table 2].

Discussion

The present study aimed to compare the fertility desire and related factors between mothers with intellectually disabled children and mothers with healthy children. The findings indicated that the fertility desire was higher in mothers with healthy children. In this regard, Wehby and Hockenberry reported similar results to our findings.^[6] Rosenzweig and Wolpin also found that the odds ratios of having other children were higher in parents with healthy children than parents with intellectually disabled children.^[21] Mothers of children with intellectual disabilities were under higher pressure and stress for issues such as frustration about having children with disabilities, the need of children with disabilities for ongoing care, and their strong dependence on the mother.^[1] In fact, the challenges to continue care for such children can lead to adverse physical and psychological consequences for mothers so that mothers limit their childbearing.^[7] The presence of children with intellectual disabilities may also reduce the parents' fertility desire by limiting family resources. Furthermore, it seems that mothers with intellectually disabled children are reluctant to have other children due to fear of occurrence of the disabilities in their next children.^[6]

Another finding of our study was that the mean scores of psychological well-being were higher in mothers with healthy children, who tended to have other children, than mothers with intellectually disabled children. In this regard, Norlin and Broberg reported that mothers with intellectually disabled children had lower psychological well-being than mothers with normal children.^[22] Results of another study indicated that mothers with disabled children had lower psychological well-being.^[23] Matsuo and Matthijs studied people with healthy children and found that people, who were in a good condition in terms of well-being, were more likely to have children.^[16] Margolis and Myrskylä also found that there was a direct relationship between the desire to have a second child and the psychological well-being scores of parents with healthy children.^[15] Factors such as ability to adapt to life events, achievement of goals, and life satisfaction might affect psychological well-being and the tendency to have more children.^[24] Mothers of children with intellectual disabilities experience high stress due to lack of growth of intelligence-related

Table 1: Comparison of demographic characteristics of mothers

Variable	Mothers with intellectually disabled children <i>n</i> (%)	Mothers with healthy children <i>n</i> (%)	Statistical test	df	<i>p</i>
Mother's education level	Primary school	38 (21.48)			
	High school or diploma	85 (48.85)	-0.96*	1,73	<0.001
	Academic	51 (29.31)			
Employment status	Housewife	152 (87.36)			
	Employed	22 (12.64)	32.29**	1	0.032
Economic status	Less than sufficient	57 (32.76)			
	Sufficient	105 (60.34)	-1.47*	1,73	<0.001
	More than sufficient	12 (6.90)			
Gender of children	Male	103 (59.19)			
	Female	71 (40.81)	1.18**	1	0.432

*Mann-Whitney U test, **Chi-Square test

Table 2: Mean (SD) Scores of attitude, subjective norms, perceived behavior control, gender preference, and psychological well-being in mothers with fertility desire

Variable	Mothers with intellectually disabled children Mean (SD)	Mothers with healthy children Mean (SD)	Independent <i>t</i> -test	df	<i>p</i>
Attitude	30.71 (5.15)	32.65 (5.88)	1.69	3,46	0.20
Subjective Norms	13.87 (3.54)	14.41 (3.82)	2.84	3,46	0.59
Perceived Behavior Control	25.64 (4.25)	24.87 (4.41)	1.28	3,46	0.51
Gender Preference	13.87 (4.18)	13.56 (6.07)	-2.03	3,46	0.83
Psychological Well-being	72.99 (10.25)	80.19 (11.25)	4.22	3,46	0.017

abilities in their disabled children, leading to their lower life satisfaction and thus lower well-being. Mothers of children with intellectual disabilities may also experience higher depression and anxiety. This probably leads to lower psychological well-being than mothers with healthy children.^[25]

The research results also indicated that increasing the number of children and age of mothers decreased the fertility desire in both groups of mothers. Saberi *et al.*^[26] found that the desire to have at least one child was higher in old mothers than young mothers. Razavizadeh *et al.*^[27] declared that economic problems, welfare concerns, and consequently childbearing limitations were higher among mothers with a high number of children. As the average number of children was higher in mothers of children with intellectual disabilities than mothers with healthy children, it seems that economic problems caused by having a disabled child and not having enough time to care for other children and family members decreased the tendency to have children in that group of mothers. Furthermore, the average age of mothers of children with intellectual disabilities was higher than mothers with healthy children. As the parents' age, especially mother, during childbearing plays an important role in the childrens' health, this group of mothers may be less willing to have other children to prevent the possible risk of aging in genetic disorders and the birth of disabled children.^[28]

Our study also indicated that the mean scores of attitude, subjective norms, and perceived behavior control were not

statistically different between the two groups of mothers. There was no study similar to our research. Mobaraki and Zadehbagheri^[29] found that the scores of attitude towards children's mental disability were lower in mothers with intellectually disabled children than mothers with healthy children. Kariman *et al.*^[10] studied childless women and indicated that those with higher mean scores of attitude and perceived behavior control had higher tendencies to have children. In another study on mothers without children or with healthy children, it was found that there were statistically significant relationships among attitude, subjective norms, and perceived behavior control with tendency to have children.^[11] Children with intellectual disabilities can be considered as an adverse outcome in the family due to the greater burden of care imposed on their mothers,^[6] which can adversely affect their attitude towards having more children. Also, mothers of children with disabilities may need more material or immaterial support from important people in their lives to cope with the parenting stress.^[30] Economic problems and unfavorable health conditions such as physical and psychological stress, especially in people with intellectually disabled children, can also make parenting difficult and act as an obstacle to having more children.^[31] Research results indicate that the above-mentioned stress and challenges, which may affect attitudes, subjective norms, and perceived behavior control, are associated with the severity of disability,^[11] and the mild intellectual disability in children can lead to the better acceptance of such children by their mothers^[29]; hence, it seems that the lack of difference in the fertility desire between the two groups of mothers in the

present study based on the attitude, subjective norm, and perceived behavior control was due to having children with mild disabilities.

The present study also indicated that there was no statistically significant difference in the mean scores of gender preference between mothers with healthy children and those with intellectually disabled children. In this regard, Raei found that those with at least a boy had less desire to have another child.^[13] Gholami *et al.*^[32] also reported that the male gender was the main cause of high fertility. In Asian societies, the preference of a boy to a girl is due to cultural reasons and has been considered as a determinant of the fertility desire.^[5] As, the gender of most children was male in the present study, it seems that the lack of statistically significant difference in the mean scores of gender preference between mothers with intellectually disabled children and those with healthy children was due to having at least a boy in the composition of their children.

Our study had some limitations. First, the fertility desire of mothers was measured while it may be influenced by the fertility desire of fathers too. Therefore, implications for future research may need to compare the fertility desire in parents with intellectually disabled and healthy children. Second, the fertility desire of mothers with educable intellectual disability was studied in the present research, whereas other types of intellectual disability may also affect the mothers' fertility desire.

Conclusion

The present study indicated that mothers with healthy children had greater the fertility desire than mothers with intellectually disabled children. Furthermore, psychological well-being score were higher in mothers with healthy children than mothers with intellectually disabled children. It seems that the awareness about the fertility desire and related factors in mothers with healthy children and those with intellectually disabled children may be helpful in doing healthy fertility counseling and can be used to advance counseling program in the field of healthy reproduction for both groups of mothers.

Acknowledgments

The present manuscript was derived from a research project approved by the Research Council of Isfahan University of Medical Sciences. Scientific code of this research was 198060. We are deeply grateful to the research deputy of Isfahan University of Medical Sciences, Student Research Committee, and mothers who participated in the research.

Financial support and sponsorship

Research Council of Isfahan University of Medical Sciences

Conflicts of interest

Nothing to declare.

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