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The association of psychological well-being and fertility intention in parents of children with intellectual disability: A foundation for reproductive education

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Abstract:

INTRODUCTION: Childbearing is an important event in a couple's life. The parents might have children with disability that affected on their well-being after the children's birth. Well-being considered as an important aspect of a couple's quality of life which may alter the future of their fertility. The present study was conducted to the association of psychological well-being and fertility intention in parents with educable intellectually disabled children.

METHODS: The study was a cross-sectional descriptive research conducted on parents of children with intellectual disability ($n = 386$). Parents were selected randomly of schools of exceptional education and welfare. The data were collected using Ryff's scale of psychological well-being, demographic information, and fertility intention questionnaire. Data were analyzed using descriptive and analytical tests including independent t -test, Chi-square test, Mann-Whitney U-test, and Logistic regression.

RESULTS: The majority of parents (83.9%) reported the negative infertility intention. Despite the mean score of well-being in parents without fertility intention (75.71 ± 11.67) was lower than parents with fertility intention (76.90 ± 11.27), the difference was not statistically significant ($P > 0.05$). The logistic regression analysis indicated that the parents' age and number of children with intellectual disability were predictors of fertility intention ($P < 0.05$), and their increase decreased the fertility intention.

CONCLUSION: It seems that the lack of difference in psychological well-being scores between the two groups of parents might be due to the equal severity of disability in children. The results also indicated parents' age and the number of children correlated with fertility intention. The findings can be used to advance counseling programs in the field of healthy reproduction for this group of parents.

Keywords:

Children, fertility intention, intellectual disability, parents, psychological well-being

Introduction

Fertility rate plays an important role in the population structure, public health, and economic growth of any country^[1] so that the reduction of fertility rate (<1.2 children per woman) in addition to the aging population can also lead to a decrease in economic growth.^[2-4] According

to the report of the United Nations, aging due to the reduction of fertility rate is an important problem in many countries.^[5] In Iran, the total fertility rate has been declining in the last three decades; for instance, it reached from 7.0 children per woman in 1980 to 1.6 in 2016.^[6,7] Therefore, population policies have been adopted to increase the fertility rate above the replacement level

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since 2014. Some of these cases included the allocation of some facilities to mothers during pregnancy and lactation and strengthening the health-care services with the aim of healthy fertility and childbearing.^[6]

Childbearing is an important event in a couple's life^[8] and is considered as a kind of purposeful behavior.^[9] The fertility intention is an appropriate indicator for fertility-related behavior.^[10]

Doss *et al.* believe that the couples' quality of life changes after the birth of a child.^[11] Well-being is an important aspect of a couple's quality of life that may change after the children's birth.^[12] Ryff defines the psychological well-being as individuals' attempt to realize their potential abilities. He introduced six components, including self-acceptance, positive relationships with others, self-determination, purposeful life, personal growth, and environmental mastery as key components of psychological well-being.^[13] From the perspective of positive psychology, the lack of disease is not enough to have a healthy feeling, and having a sense of life satisfaction, positive and sufficient progress, and efficient and effective interaction with the world are characteristics of a healthy person. In other words, psychological well-being indicates whether people have reached a pleasant life that depends on their success.^[14] Since well-being is an integral part of individual identity, it can affect all aspects of a person's life.^[15] Childbearing is an important aspect of the individuals' life, including parents. Margolis and Myrskylä indicated that the experience of childbearing might affect the parents' psychological well-being and their fertility intention so that the intention to have a second child was lower in parents whose well-being decreased after having the first child compared to those with unchanged well-being levels.^[16] Findings from another study indicated that parents with high psychological well-being were more likely to have other children.^[17]

Childbearing is a stressor for parents. Now, if their children are also disabled, their psychological, social, and economic stress caused by the children's presence in the family is multiplied.^[18] Intellectual disability is a common disability with a prevalence of 3% in the world.^[19] In Iran, the prevalence of disability was reported to be high and one million and two hundred thousand of them are individuals with intellectual disability.^[18] Intellectual disability is divided into three ranges: mild, moderate, and severe. Mild or educable type accounts for 85% of intellectual disabilities.^[20] The presence of a child with disability including intellectual disability poses many challenges for the family.^[21] In parents of children with intellectual disability, the incidence of physical and mental illnesses increases due to ongoing care for children with disability. On the other hand, there

are further economic problems, disruption of marital relations, restrictions on social activities, and lack of sufficient time to take care of other family members for these parents.^[22,23] Parents of children with intellectual disability may decide to discontinue childbearing due to problems with having disabled children and higher care costs,^[24] but others may increase the number of their children due to the desire to have healthy children who can take care of their disabled children.^[25] Individuals' income is another factor affecting the fertility intention, as Modena *et al.* indicated that people with a low income had less fertility intention.^[26] In the field of job and fertility intention, Azmoude *et al.* found that the tendency to have more children was higher in housewives than employed women.^[27] The first child of each family represents the parents' wishes to have children and has a special place compared to other children.

In addition, the results of studies by Caplescua and Erfani indicated that the fertility intention was higher in women under 35 years of age without children or with healthy children than older women.^[28,29] In the field of education and fertility intention, Khorram *et al.* indicated that higher education was associated with lower fertility intention.^[30] The first child of each family represents the parents' wishes to have children and has a special place compared to other children.

While another study showed that individuals with higher education had higher fertility intention.^[31] On the other hand, the results of a study by Rabbi indicated that increasing the number of children decreased the parents' fertility intention.^[32]

In general, the results of the above studies indicated factors relating to fertility intention in men and women without children or with healthy children.^[3,17,33] However, there are few studies on parents of children with disability. According to the results of a study by Park *et al.*, the chance of tubal sterilization was higher in mothers who had mentally retarded children.^[34] MacInnes also reported that disability in the first child of a family decreased the chance of having a second child.^[24] Due to the reduction of fertility rates in Iran in recent years, programs have been adopted to increase the population. Couples without children or with at least a child was a target group in the programs.^[6] The parents might also have children with disability that affected their fertility.^[24,25,34] Inform and advice about future pregnancies in people needy training and guidance are usually done during counseling sessions by midwives.

Therefore, they can be aware of the factors related to fertility in parents with intellectually disabled children and guide them to choose contraceptive methods or encourage fertility. Thus, it seems necessary to examine

the factors related to fertility in these individuals. As there were few studies on this field and they achieved contradictory results, the present study was conducted to determine the relationship between psychological well-being and fertility intention in parents with educable intellectually disabled children.

Methods

The present research was a cross-sectional descriptive study. The statistical population of the study consisted of all parents of educable intellectually disabled children who were studying in Isfahan in 2018–2019. The sample size consisted of 386 parents of children with intellectual disability. In the study, the cluster classification method was used for sampling that lasted for 6 months (December 2018 to May 2019). Inclusion criteria were being mother at the childbearing age (15–45), having at least a child with educable intellectual disability (IQ of 50–75), having at least parental primary education, having both parents alive, and not having psychological or psychiatric disorders.

In Iran, persons with intellectual disability are trained by public and private exceptional schools under the supervision of exceptional education and welfare organizations. After obtaining the necessary permissions and coordination with authorities of intellectual disability schools, first three of six districts of Isfahan welfare organizations and three of six districts of exceptional education organization of the city were randomly selected. From each district, an intellectual disability school was randomly selected for boys and one for girls with intellectual disability (a total of 6 female and 6 male schools). Afterward, the parents, who had brought their mentally retarded children to the centers, were daily called and asked to attend a face-to-face meeting in coordination with the centers. After parents' attendance at the schools and explaining the research objectives, written consent was obtained from them, and then, the research questionnaires were distributed.

The first questionnaire included the demographic information (age, job, and education levels of parents, number of healthy children, number of children with intellectual disability, and economic status). Fertility intention was assessed using the question "Do you want to have another child?" The answer to the question was yes or no. A point was given for answering yes and 0 for no.

A standard and shortened questionnaire, Ryff's scale of psychological well-being ($n = 18$) designed in 1980, was used to examine the parents' psychological well-being.^[35] The questionnaire was based on a 6-point Likert scale (from strongly agree to strongly disagree).

In Iran, the validity and reliability of the questionnaire were examined and were reported to be 0.76 and 0.73, respectively.^[13]

The present study was approved by the Ethics Committee of Isfahan University of Medical Sciences (IR.MUI.RESEARCH.REC.1397.350). The written informed consent forms were also obtained from research units after explaining the research.

Data were collected and then analyzed by the SPSS 20 (SPSS Inc., Chicago, Illinois, USA). The descriptive statistics including frequency distribution and percentage, independent *t*-test, Chi-square test, and Mann–Whitney U-test were used to achieve research objectives. Logistic regression was used to predict the roles of psychological well-being and individual factors on the fertility intention. Odds ratio and 95% confidence interval were provided for all variables. A significant level was considered to be < 0.05 .

Results

In the study, 386 parents with intellectually disabled children were examined; 324 (83.9%) parents reported negative fertility intention; and 62 (16.1%) parents reported positive fertility intention. Most mothers were at the age of 36–45 (67.4%) years. Most of them were housewives (88.1%) and had primary school or high school diplomas (49.7%). Most fathers were at the age of 31–45 (59.5%) years. Most of them were employed (83.4%) and had primary school or high school diplomas (50.2%). About 93.2% of the parents had one child with intellectual disability and 73.5% had at least a healthy child. Furthermore, the economic status of most parents was moderate (60.6%).

The results of our study indicated that the mean well-being score was 76.90 ± 11.27 in parents with fertility intention and 75.71 ± 11.67 in parents without fertility intention.

Despite the mean score of well-being in parents without fertility intention was lower than parents with fertility intention; the difference was not statistically significant ($P > 0.05$).

The results of the independent *t*-test also indicated that the mean age of mothers and fathers, number of healthy children, and number of children with disabilities were lower in parents with fertility intention than parents without fertility intention and the difference was statistically significant ($P < 0.05$). According to the results of Mann–Whitney U-test, there was no statistically significant relationship between mother's education level, father's education level, and economic

status of family with parents' fertility intention ($P > 0.05$). The results of Chi-square test also indicated that there was a statistically significant relationship between mother's job and fertility intention ($P < 0.05$), while findings of the same test did not show any statistically significant relationship between father's job and fertility intention ($P > 0.05$) [Table 1].

Logistic regression was used to determine the contribution of each variable in predicting the fertility intention of units. As shown in Table 2, the chance of having another child decreased as the father's age and mother's age increased by 0.85 and 0.82, respectively. According to the test results, the chance of positive fertility decreased by an increase of 0.31 times in the number of children with intellectual disability [Table 2].

Discussion

In recent years, the lower fertility intention rate and its determinants have attracted the attention of many studies. According to the results, most parents had a negative fertility intention. The results of this study showed that mean scores of psychological well-being in both the groups, parents without and with fertility intention, were different. However, there was no significant difference. A study on the relationship

between psychological well-being and fertility intention in people in 27 European countries indicated that there was a statistically significant relationship between psychological well-being and fertility intention.^[17] Another study indicated that a decrease in parental well-being after the birth of the first child decreased the intention to have a second child probably due to factors such as the couple's less enjoyment of parental responsibilities, failure to succeed in job due to child-related tasks, and higher stress due to increasing the number of children.^[16] Well-being depends on factors such as education level, health level, economic security, social activities, and level of happiness in individuals^[17] that can also provide a basis for more childbearing of couples.^[36] Parents with intellectually disabled children experience anxiety, stress, depression, fatigue, more dysfunction of familial, occupational, and social activities than parents with healthy children, which may have adverse effects on their psychological well-being.^[37] The severity of children's disability is an important factor in the occurrence of these disorders and consequently low psychological well-being.^[38] Since the disability of children in the research units had the educable intellectual disability type in our study, the lack of difference in psychological well-being score between two groups of parents might be due to the equal severity of disability in children.

Moreover, the results of our study revealed that the fertility intention was higher in parents who were younger. The results of the logistics regression test also indicated that increasing the parental age decreased their fertility intention. In this regard, the results of studies by Bulto *et al.* and Dibaba indicated that younger women had a higher tendency to have more children.^[39,40] Parents' age not only affects their fertility intention, but also its increase can be associated with an increase in their children's disability.^[41] Therefore, it seems that the fertility intention decreases due to the prevention of adverse consequences of pregnancy in parents who are older and have children with intellectual disability.^[42]

Our study also indicated that parents, who had fewer children (both healthy and mentally retarded), had higher fertility intention. However, only the number of children with intellectual disability was effective in predicting the parental fertility intention after the logistic regression test. In this regard, the results of studies by Erfani and Bhargava also indicated that there was an inverse relationship between the number of healthy children of women with their fertility intention; and their desire to have children decreased as number of children increased.^[29,43] In fact, many parents may limit their subsequent childbearing by considering its cost after having their first children. It seems that increasing the number of children is considered more expensive,

Table 1: Comparison of demographic characteristics of parents with and without fertility intention

Variable	Wants children	Doesn't want children	P
Mother's age	34.37±4.43	38.89±4.59	<0.001*
Father's age	39.30±5.15	45.07±6.66	<0.001*
Number of children with intellectual disability	1±0	1.07±0.29	0.001*
Number of healthy children	0.65±0.72	1.24±0.93	0.002*
Literacy status of mother			
Illiterate	4 (13.8)	38 (23.2)	0.39**
Under the diploma or diploma	16 (55.2)	80 (48.8)	
Academic	9 (31)	46 (28)	
Literacy status of father			
Illiterate	3 (9.1)	46 (28.8)	0.14**
Under the diploma or diploma	22 (66.7)	75 (46.9)	
Academic	8 (24.9)	39 (24.4)	
Economic status			
Less than sufficient	12 (41.4)	52 (31.7)	0.26**
Sufficient	16 (55.2)	101 (61.6)	
More than sufficient	1 (3.4)	11 (6.7)	
Mother's employment status			
Housewife	29 (100)	141 (86)	0.039***
Employed	0 (0.0)	23 (14)	
Father's employment status			
Employed	27 (81.8)	134 (83.8)	0.159***
Not working	6 (18.2)	16 (10)	
Retired	0 (0.0)	10 (6.3)	

*Independent t-test, **Mann-Whitney U-test, ***Chi-square test

Table 2: Results of logistic regression analysis based on the fertility intention predictors

Variable	B	OR	95% CI for OR		P
			Lower limit	Upper limit	
Mother's age	-0.197	0.82	0.774	0.907	<0.001
Father's age	-0.160	0.85	0.789	0.920	<0.001
Mother's employment	0.601	1.82	0.362	1.18	0.466
Number of healthy children	-19.91	0.000	0	0	0.999
Number of children with intellectual disability	-1.154	0.31	0.160	0.622	0.001

OR=Odds ratio, CI=Confidence interval

causing parents to stop having children in those with disabled children compared to parents with healthy children due to more physical, psychological, economic, and social problems.^[24]

According to another result of the present research, there was no statistically significant relationship between parents' education levels and their fertility intention. However, the results of a research in Germany indicated that women and men with higher education levels were more likely to have children.^[31] In another study, the results indicated that fertility intention was lower in educated women.^[10] In fact, educated people seem to have higher levels of self-confidence than others, the ability to cope with stress, and the acceptance of parental roles that increase the tendency to have a greater number of children.^[27] If parents of children with disabilities have low education levels, they may be less compatible with their children with disabilities due to more problems with parenting, thereby negatively affecting their fertility intention.^[44] On the other hand, increasing the education level of parents also increases the chance of job opportunities and parents' greater attention to their children's education and meeting their needs than increasing the number of children. Therefore, their desire to have more children decreases.^[30] Another finding of the present study was that there was no statistically significant relationship between parents' economic status and their fertility intention, but a research by Modena *et al.* indicated that low family income could lead to lower fertility.^[26] In our study, most children with disabilities had the first rank of birth, and the birth rank of children with disabilities could be related to the economic problems of parents.^[45] The first child of each family represents the parents' wishes to have children and has a special place compared to other children.^[46] It seems that this view may lead to the common economic concerns of parents in matters relating to the care and spending for these children, and thus, the fertility intention was not different in two groups.

Our study on the parental job and fertility intention indicated that despite the higher fertility intention in housewives than working mothers, no statistically significant relationship was found between fathers' employment status and fertility intention. Consistent

with these results, another study indicated that working women were less likely to have children than housewives.^[47] Since children with intellectual disability spend most of their time with their mothers, raising such children can lead to job constraints.^[48,49] Therefore, working women seem to have less opportunity to deal with parenting issues. On the other hand, due to their job security and financial independence, they should not look at the child as a source of income for family; hence, the fertility intention is lower in working women than housewives.^[30]

Despite few studies on the fertility intention of parents with disabled children, the results of the present study can be an important step toward identifying factors associated with childbearing of parents with disabled children, especially with intellectual disability. As based on the results of the present study, some parents did not have a negative fertility intention and some parents wanted to have other children. A limitation of the present study was the lack of parents with healthy children in the study to compare the factors in both the groups of parents with healthy children and children with intellectual disability. In the study, the research group had the intellectual disability, while other disabilities may also affect the parents' fertility intention. It seems that more research may need in the field. The results of this study are a good guide for educational planners in health centers to design incentive or vice versa protocols based on awareness of the factors that affect fertility intention in parents with intellectually disabled children.

Conclusion

Since the fertility rate has decreased in most age and social groups in Iran,^[6] it is necessary to address factors affecting the fertility intention in parents, including parents with disabled children. Our research indicated that most parents with intellectually disabled children did not intend to have other children. Furthermore, it seems that the lack of difference in psychological well-being score between two groups of parents might be due to the equal severity of disability in children. The results also showed that the parents' age and number of children with disabilities in the family were the most important predictors of fertility intention. These findings

can be used to advance counseling programs in the field of healthy reproduction for this group of parents.

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Conflicts of interest

There are no conflicts of interest.

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