

# The level of depression and its related factors among the mothers with mentally retarded girl children in exceptional primary schools

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## ABSTRACT

**Background:** Nowadays, depression is one of the most prevalent mental diseases to which some individuals like mothers of mentally retarded children are more vulnerable due to their (children's) special condition. Therefore, the present study aimed to investigate the level of depression and its related factors in these mothers.

**Materials and Methods:** This cross-sectional study was conducted on 120 qualified mothers with mentally retarded children who were from exceptional children girls' schools in Isfahan. The subjects filled personal characteristics and Beck depression inventory assessment, and their level of depression and its association with some baseline factors were analyzed through descriptive statistics in SPSS.

**Results:** Results showed that 75% of the mothers experienced various levels of depression, of whom 25.8% suffered from minor depression, 24.2% from moderate depression, and 25% suffered from major depression. The results obtained showed that there was a significant direct association between the intensity of depression and students' age, mothers' age, fathers' age, the number of children, and the length of parents' marriage and a reverse association between the intensity of depression and subjects', fathers', and mothers' education ( $P = 0.004$ ). No association was observed between mothers' occupation and the intensity of depression. Meanwhile, there was a negative significant association between fathers' occupation and mothers' depression ( $P = 0.02$ ). About 33.3% of the mothers did not believe that their spouses' and families' psychological and mental support was adequate.

**Conclusions:** The present study showed that mothers of mentally retarded children are predisposed to depression. With regard to the important role of mothers in the family and, consequently, the risk of impaired health of the family members, especially these children's health, prevention and diagnosis of depression and treatment of these mothers seem to be essential. Adequate support to these mothers plays a key role in reduction of the risk of their depression.

**Key words:** Depression, Iran, mentally retarded exceptional children, mother

## INTRODUCTION

In about 45 BC, Hippocrates used the words "mania" and "melancholia" to describe mental disorders.<sup>[1]</sup> Now, these disorders are named as mood disorders. Mood disorders, especially depression, are among the most common mental disorders of adults, in which the individuals' involvement during their lifetime is estimated to be 10-25%.<sup>[2]</sup> Numerous factors including biological, psychological, and social elements influence the incidence of depression.<sup>[3]</sup> Constant

pain and suffering and hopelessness, not enjoying the most joyful events, and loss of interest in visiting family members and friends or to go to work or to have other leisure time activities are among the signs of depression.<sup>[4]</sup> Its other signs include existence of negative thoughts including feeling of not being worthy, sinfulness, hopelessness, and even suicidal thoughts. Depression can be a disabling disorder, and most of the types of depression can be successfully treated by timely diagnosis and medication or psycho therapy, so that their recurrence onset can be prevented.<sup>[1]</sup> Therefore, detection of predisposed groups can help in early detection of the disease. Research shows that women are prone to depression twofold more than men.<sup>[2]</sup> Mentally retarded children, whose presence is a disturbing factor for family's normal condition, act as a very important and effective stressor, which can threaten familial mental health. Studies show that existence of a mentally retarded child in a family can result in special problems and concerns for other family members.<sup>[5]</sup> In researches investigating and comparing the level of depression in

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mothers of mentally retarded children with that of mothers with healthy children, a notable percentage of depression was reported among mothers of the former group.<sup>[4]</sup> The families who take care of their mentally retarded children at home are surrounded by various problems to different extent. Detection of their problems and their related factors can be used by supportive organizations for providing support and guidance of these families.<sup>[6]</sup> Since the health of mothers is considered the main core of the family in all societies, and due to the importance of health of mothers with mentally retarded children in making use of existing potentialities among these children, their mental problems should be essentially assessed. Therefore, the present study was conducted with the goal of investigating the level of depression and its related factors among the mothers with mentally retarded children, who were exceptional girls of primary schools in Isfahan.

It is hoped to design an educational program to improve the health and quality of life of the mothers involved in taking care of a mentally disabled child, through the results of this research.

## MATERIALS AND METHODS

### Ethical considerations

This is a cross-sectional study conducted on 120 mothers of mentally retarded children in primary exceptional girls' schools of Isfahan in the school year 2012-2013. This study was approved by the Isfahan University of Medical Sciences Ethics Committee. Informed consent was obtained from the mother who agreed to participate in the study.

Simple size was calculated to be 120 based on the existing files on girls of exceptional primary schools (a total of eight schools) and considering  $P = 0.5$  and an accuracy of 0.05. Based on the inclusion criteria, these files were selected through convenient random sampling. Data were collected by a questionnaire including two sections of personal characteristics and Beck Standard Depression Scale, for which the validity had been confirmed in Iran.<sup>[7]</sup>

This scale is used to measure the intensity of depression and includes 21 questions scored based on the Likert's scale (0-3). Its reliability was reported as 0.73 and its Cronbach's alpha was 0.90.<sup>[8]</sup> Scores 1-10 were assigned to healthy individuals, 11-17 to minor depression, 18-29 to moderate depression, and scores  $>30$  were assigned to major or acute depression. Sampling method used was cluster random sampling (from eight schools in Isfahan). The qualified subjects completed personal characteristics questionnaire and Beck Depression Scale. If the selected student was not qualified to be included or her mother did not cooperate with the researcher, a new subject

was randomly selected. Mothers with depression already diagnosed and undergoing treatment were excluded from completion of the depression questionnaire. After the questionnaires were completed, the results were analyzed by Spearman, Mann-Whitney, and Kruskal-Wallis tests through SPSS.

## RESULTS

In the present study, 120 mothers of age 28-50 years with a mean age of  $40.08 \pm 5.3$  years and with mentally retarded children were investigated. Results showed that 27.5% of the subjects ( $n = 33$ ) were working. The highest frequency distribution with regard to mothers' education, i.e. 78.4%, was for high school diploma or less ( $n = 94$ ). The age of their children ranged 6-23 years with a mean of  $13.7 \pm 3.4$  years. Their spouses' age ranged 30-62 years with a mean of  $44.8 \pm 6.7$  years.

The highest frequency distribution with regard to fathers' education (73.3%) was for high school diploma or less. About 4.2% of the spouses were jobless, 55% were employees, 32.5% were self-employed, and 8.3% were laborers. The length of marriage of the mothers under study ranged 14-38 years with a mean of  $20.02 \pm 6.7$  years. The results showed that 75% of these mothers had various degrees of depression (25.8% had minor depression, 24.2% had moderate depression, and 25% had major depression). There was no significant association between mothers' occupation and the intensity of depression ( $z = 0.58$ ,  $P = 0.56$ ). In mothers whose spouses were unemployed or laborers, the intensity of depression was significantly higher, compared to the mothers whose spouses were employees or self-employed ( $\chi^2 = 9.84$ ,  $P = 0.02$ ). Spearman coefficient showed a direct association between mothers' depression and students' age ( $r = 0.258$ ,  $P = 0.005$ ), mothers' age ( $r = 0.186$ ,  $P = 0.04$ ), fathers' age ( $r = 0.362$ ,  $P = 0.004$ ), the number of children ( $r = 0.003$ ,  $P = 0.265$ ), and the length of marriage ( $r = 0.259$ ,  $P = 0.004$ ), and an inverse association with fathers' education ( $r = -0.336$ ,  $P = 0.000$ ) and mothers' education ( $r = -0.222$ ,  $P = 0.015$ ) [Table 1].

About 26.7% of the women had married their relatives and 6.7% mentioned a history of a genetic disease in their families. None of the mothers mentioned any history of maternal diseases and consumption of a specific medication during their pregnancies. About 42.5% of the pregnancies were unwanted, and 14.2% of children were taking medication under the supervision of a physician at the time of the study. There was no significant association between familial marriage and the intensity of mothers' depression, as well as between existence of a genetic disease and mothers' depression ( $z = 0.41$ ,  $P = 0.68$ ).

**Table 1: Variables in mothers with mentally retarded children with and without depression**

Variables	Depression				P value
	No	Mild	Moderate	Severe	
Mothers' age, years	39.23±5.30	39.35±5.49	39.28±4.62	42.47±5.47	0.04
Fathers' age, years	44.07±6.31	42.26±6.17	44.46±5.03	48.63±7.82	0.004
Students' age, years	12.80±2.92	12.90±3.90	14.14±3.56	14.90±2.86	0.005
Number of children	2.67±1.37	2.48±1.28	2.86±1.32	3.83±1.84	0.003
Duration of marriage, years	18.77±6.52	17.65±6.19	20.38±5.40	23.37±7.61	0.004
Mothers' education					
Illiterate	2 (18.2%)	4 (36.4%)	2 (18.2%)	3 (27.3%)	0.015
Elementary	9 (17%)	10 (18.7%)	14 (26.4%)	20 (37.7%)	
Diploma	10 (33.3%)	6 (20.0%)	9 (30.0%)	5 (16.7%)	
Above diploma	9 (34.6%)	11 (42.3%)	4 (15.4%)	2 (7.7%)	
Fathers' education					
Illiterate	0 (0.0%)	1 (11.1%)	4 (44.4%)	4 (44.4%)	0.000
Elementary	9 (18.7%)	12 (25%)	10 (20.8%)	17 (35.4%)	
Diploma	8 (25.8%)	8 (25.8%)	9 (29.0%)	6 (19.4%)	
Above diploma	13 (40.6%)	10 (31.2%)	6 (18.8%)	3 (9.4%)	
Mothers' occupation					
Employed	8 (24.2%)	11 (33.3%)	7 (21.2%)	7 (21.2%)	0.56
Housewife	22 (25.3%)	20 (23.0%)	22 (25.3%)	23 (26.4%)	
Fathers' occupation					
Employed	29 (24.4%)	31 (26%)	28 (23.5%)	26 (21.8%)	0.02
Unemployed	1 (20%)	0 (0.0%)	0 (0.0%)	4 (80%)	

There was a significant association between wanted pregnancy and the intensity of mothers' depression, as 41% of mothers with an unwanted pregnancy experienced various degrees of depression and just 10% of these mothers had no depression ( $z = 1.98, P = 0.048$ ). There was no significant association between depression during pregnancy and mothers' depression intensity ( $z = 0.04, P = 0.97$ ) [Table 2].

Table 2 shows that there was no significant association between consumption of medication by the child and mothers' intensity of depression ( $z = 0.626, P = 0.532$ ). With regard to adequacy of spouses' and families' mental and psychological support, 33.3% of mothers believed that the support was not adequate. Results showed a significant inverse association between adequate spouses' and families' mental and psychological support and the intensity of mothers' depression ( $z = 4.89, P < 0.001$ ). In the group where spouses' and families' mental and psychological support was believed to be adequate, depression of different degrees was found in 62.4%, while in the group where it was not believed to be adequate, this value was 100%, with a notable difference (37.6%) compared to the first group. Intensity of depression was significantly higher in mothers with mentally retarded children compared to that in mothers with children having Down syndrome ( $z = 4.28, P < 0.001$ ).

## DISCUSSION

The obtained results show that prevalence of various degrees of depression among the mothers with mentally retarded children was higher (75%) than that among the other women in the society. One researcher in Iran reported 34.2% of population suffered from mental disorders (37.9% in women and 28.6% in men).<sup>[9]</sup>

Mohamadi *et al.* reported the prevalence of major depression among women in Isfahan as 5.57% and the total prevalence of mood disorders in women of Isfahan as 8.44%.<sup>[10]</sup> Ghasemi *et al.* reported the prevalence of major depression among women in Isfahan as 7.4%.<sup>[11]</sup> As observed in the present study, prevalence of total depression among women was higher in Isfahan. This reveals that women with mentally retarded children are more prone to depression due to the different conditions they are in, compared to the other members of the society. Mohamadi *et al.* reported in their study that 76.7% of these mothers suffered from acute mental problems and depression.<sup>[6]</sup>

Amiri *et al.* reported a high intensity of depression among mothers.<sup>[4]</sup> Mohamadkhan kermanshahi *et al.* pointed to a high prevalence of depression and other mental problems among these mothers (50%).<sup>[3]</sup> In this direction, Kouhestani

**Table 2: Related factors in mothers with mentally retarded children with and without depression**

Variables	Depression (n (%))				P value
	No	Mild	Moderate	Severe	
Familial marriage					
Yes	9 (28.1)	6 (18.8)	7 (21.9)	10 (31.2)	0.68
No	21 (23.9)	25 (28.4)	22 (25)	20 (22.7)	
Family history of genetic disease					
Yes	2 (25)	1 (12.5)	2 (25)	3 (37.5)	0.506
No	28 (25)	30 (26.8)	27 (24.1)	27 (24.1)	
Wanted pregnancy					
Yes	20 (29)	19 (27.5)	18 (26.1)	12 (17.4)	0.048
No	10 (19.6)	12 (23.5)	11 (21.6)	18 (35.3)	
Drug use in children					
Yes	2 (11.8)	6 (35.3)	5 (29.4)	4 (23.5)	0.532
No	28 (27.2)	25 (24.3)	24 (23.3)	26 (25.2)	
Psychological support spouse and family					
Yes	30 (37.5)	21 (26.2)	17 (21.2)	12 (15)	0.000
No	0 (0.0)	10 (25)	12 (30)	18 (45)	
Problem of student					
Mental retardation	20 (19)	26 (24.8)	29 (27.6)	30 (28.6)	0.000
Down syndrome	10 (66.7)	5 (33.3)	0 (0.0)	0 (0.0)	

and Mirzamani stated that mothers with mentally retarded children are more prone to develop depression, compared to mothers with healthy children.<sup>[12]</sup> Our study also revealed that 75% of the mothers with mentally retarded children had various degrees of depression. 25.8% had minor depression, 24.2% had moderate depression, and 25% had major depression. Research shows that in general, mothers of mentally retarded children have unstable emotional states, psychological diseases, resistant sorrow, social isolation and, eventually, depression.<sup>[13]</sup>

In relation with education, it was observed that with an increase in the level of education, mothers' depression intensity decreased, which can be possibly due to their increased awareness and knowledge. On the other hand, increase in awareness of the families enhances their referral to educational and counseling centers and they acquire the correct approach toward these children and the way to educate them, which decreases their concern, anxiety and, consequently, their depression. Through passing higher degrees of education, the mothers try to have a more appropriate attitude and perception,

which are combined with empowerment of the children's abilities and positive potentialities through time and results in children's condition getting better, which ultimately diminishes mothers' depression. Moosavi Khatat indicated that mothers sometimes have to leave their education unfinished due to them being involved in numerous caring needs of their children and devoting all their time to their children's care, which leads to the worsening of their depression.<sup>[14]</sup> Mohamadi reported that the mothers with low education had more mental problems.<sup>[6]</sup> Harris also reported that the mothers with low education and belonging to low socioeconomic condition had more tension due to their direct responsibility for such children and their related care, as well as tolerating their conditions.<sup>[15]</sup> Palfrey showed that the more the education, the higher is the parental adaptation.<sup>[16]</sup>

No significant association was observed between mothers' occupation and their depression. In the family where a mentally retarded child exists, having a job is of high importance for the mother as it can affect various dimensions of her life. Women's working, despite allowing them to spend only fewer hours of their time at home, improves families' economic status and causes changes in the management and family members' roles. Although primarily this effect results in a change in the spouse's function and decrease of his power, finally in many cases, it leads to better coordination between spouses in decision making and management of their common life.<sup>[17]</sup> With regard to the association between spouses' occupation and mothers' depression, the intensity of depression was significantly more among the mothers whose spouses were unemployed or laborers, compared to those whose spouses were employees or self-employed.

In this relation, Amiri *et al.* pointed out that lower income of a family increases the stress imposed on it and, consequently, increases the incidence of depression.<sup>[4]</sup> This result is inconsistent with earlier studies. It can be noted that occupation is a key element in the incidence of depression, as a higher family income brings about more financial and mental security for the mother. On the contrary, low financial status of the family may worsen the already existing depression in case of having a mentally retarded child, which was not possible to be investigated and controlled in the present study and needs to be studied further. In relation with the association between mothers' wanted pregnancy and their intensity of depression, there was a significant difference, such that only 10% of these mothers did not suffer from depression. In this case, either unwanted pregnancy may itself be the cause of the depression, which is made more severe by existence of a mentally retarded child, or the report of an unwanted pregnancy is masked by the child's mental disability. There was no significant association

between medication consumption of the mentally retarded children and their mothers' depression in the present study.

Children's medication can have various effects on the families' conditions and mothers' depression. On the one hand, the child's medication, followed by an improvement in his/her condition, can positively affect the family's mental conditions and, consequently, positively influence the intensity of the mother's depression. On the other hand, children's medication may make the mothers believe their children's condition is so acute that they have to take medication, and it may cause anxiety among mothers. Therefore, depending on the attitudes and approaches of the mothers concerning their children's medication, as well as the effect of medication on the children's condition, the intensity of depression may vary. As this issue has not been adequately studied in the present study, further studies are suggested to be conducted in this context.

Results showed a direct association between mothers' depression intensity and students' age, mothers' age, fathers' age, the number of children, and the length of marriage. There was also an inverse association between mothers' depression intensity and parents' education. Amiri *et al.* reported that the child's age is associated with parents' stress and mental health, as the stress and mental pressure, related to the child's cognitive defect, disappear with increase of his/her age.<sup>[4]</sup> Kouhsali *et al.* claimed that there was no association between the child's mother's and father's age and mother's social adaptation and depression. They also showed that there was no association between mothers' depression, and the length of marriage and the number of children.<sup>[18]</sup> The results showed that 33.3% of the subjects did not believe that spouses' and friends' mental support was adequate, although a direct significant association was observed between adequate mental support from spouses and friends and the intensity of mothers' depression. Depression of different degrees was observed in 62.4% of the group which believed that spouses' and friends' support was adequate, while in the group which did not believe so, most of the mothers had a notable difference of 37.6%, which was consistent with Mohamadkhan kermanshahi *et al.*'s result.<sup>[3]</sup>

One of the social determinants of health which points out the importance of social dimension of human beings and has been increasingly noted in recent years is social support. There are notable evidences which show that social support plays a key role in the health of individuals in a society, and that social isolation results in a disease.<sup>[19,20]</sup> Spouses' and friends' mental support is a part of social support, which is a very important factor in the prevention of depression. Since the level of depression was 100% among the mothers who believed the support was not adequate, it can be noted that

those who are not mentally supported develop more severe depression. Mohamadkhan kermanshahi *et al.* mentioned that most of these mothers are not adequately provided with mental support from their spouses and friends, which worsens their mental disorders including depression.<sup>[3]</sup> This problem can be solved by life skills education through educational programs, so as to take steps toward the reduction of depression among these mothers. In relation with the association between existence of depression in mothers' immediate family members and their own depression, it can be argued that an immediate family member with depression may cause depression in mothers due to genetics or shortage of adequate support received from the related family member or friend. Consequently, the mothers lack support and feel lonely and helpless in taking care of their mentally retarded child. On the other hand, existence of depression in an immediate family member can impose an extra source of anxiety to the mothers, in addition to their already existing stress and problems related to taking care of a mentally retarded child, which eventually leads to the worsening of their depression. This issue needs to be studied further. Results showed that the intensity of depression was significantly higher in the mothers with mentally retarded children, compared to that in mothers with children having Down syndrome. Perhaps as the children with Down syndrome can make stronger emotional ties with their mothers, while mentally retarded children cannot, prevalence of depression was higher in the latter group. Khayat-zadeh Mahani stated that there was an association between mother's quality of life and severity of her child's disability, so mothers of children with lower abilities experience lower quality of life.<sup>[21]</sup>

Finally, this study showed that depression is seen more among the mothers with mentally retarded children, compared to other women. With regard to their very important role in the support of mentally retarded children, it is essential to screen such individuals as the high-risk ones and give them social support.

With regard to the important role of women in the family, especially their role of motherhood, and the existing risk for family's and children's health, conducting educational programs for school teachers who are in contact with these mothers is crucial to prevent, detect, and introduce them to related centers to be treated.

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