Research Article

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Depression among mothers of autistic spectral disorder children

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ABSTRACT

Background: This study aimed to evaluate the presence of depression in a group of mothers of ASD children in comparison with a group of mothers of normally developing children and to identify associated factors.

Methods: A case control study design, 60 autistic cases diagnosed by DSM-IV-TR criteria (American psychiatric association, 1994 diagnostic and statistical manual of mental disorders, 4th edition criteria, text revised) were recruited from Mental health clinic of Children Hospital Taif Region KSA, and private autism center, these cases with their parents were enrolled in the group called (cases). One control subject was matched for each case in the age of mother, sex and age of the patients, they were recruited from well-baby clinic of children hospital. These cases with their mothers were enrolled in the group called (controls).

Results: Using short Beck inventory scale depression was significantly more among cases than controls (P = 0.001, 0.001, 0.000). Exploring socio-demographic factors while female sex had a significant impact on maternal depression (P = 0.022), number of siblings, family income, level of mother education, showed no significant impact on maternal depression (P = 0.72, 0.53, 0.71). Considering factors related to autism, the only significant factor was the mean age of autism child (P = 0.022). In relation to the support factors, while mother knowledge about autism, mother joining a support group had no significant impact on maternal depression (P = 0.35, 0.44) the social and financial support for autistic families were both significantly impacting maternal depression (P = 0.02, 0.001).

Conclusions: Autism is associated with burden and stress for mothers of the affected child. The demands placed by disability contribute to higher overall incidence of depression among mothers. Mothers of ASD children do need psychological interventions. Evaluate the efficacy of support group in local community. Stress on social support to mothers Of ASD children as it had a significant impact on maternal depression.

Keywords: Depression, Mothers, ASD, children

INTRODUCTION

Autism is a worldwide disorder¹ defined as severe psychiatric disorder of childhood marked by severe difficulties in communication and forming relationships with other people, in developing language, repetitive, and limited patterns of behaviors and obsessive resistance to small changes in familiar surroundings.² These signs all

begin in children before the age of 3 years.³ It affects information processing in the brain by altering how nerve cells and their synapses connect and organize; however, how this occurs is not well understood.⁴ There are three recognized disorders in the autism spectrum (ASDs), first is the autism disorder and the other two are Asperger syndrome and Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS).⁵ Prevalence of ASD

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has increased dramatically since the 1980s, partly due to advances in diagnostic practice, however the question of whether actual prevalence has increased is unresolved. Studies of autism frequency have been particularly rare in the Middle East; estimates for ASD prevalence in Saudi Arabia are not available in the literature. Although it is difficult to determine its prevalence rate per country arecent study conducted by Zahrani 2013 found that the overall prevalence of autism in the primary school in Taif KSA whose age ranged from 7 to 12 years was 0.035%.

Currently, depression is the leading cause of disability in the world and is predicted to become the second largest killer after heart disease by the year 2020⁹ it is a common psychological disorder among mothers of young children, with prevalence rates ranging from 8 to 12%. 10 Depressed mothers generally show less responsiveness and attentiveness to their children needs, they are also poor models for negative mood regulation and problem solving. Longitudinal studies compared the behavior of depressed and non-depressed mothers and the out-come of their children, they showed that depressed mothers are less likely to set limits on their children and follow through if they did set limits. ^{10,11} Specifically, children of depressed mothers are at increased risk for a variety of psychiatric problems, including depression behavioral disturbances, and they also have social and achievement deficits. 12 Moreover, they are more passively non-complaint; with less mature expression of age mature autonomy.¹³ Also they are more likely to respond negatively to friendly approaches, more likely to engage in low level physical play and less likely to engage in individual creative play than controls.¹⁴

Autism is associated with burden and stress for parents.¹⁵ Compared with parents of children with other intellectual, developmental, or physical disabilities, the demands placed on parents caring for a child with autism associate with a higher overall incidence of parental stress, depression, and anxiety, which adversely affects family functioning and marital relationships. 16,17 Mothers of children with autism are more liable to suffer from depression than those of children with Intellectual Disability (ID) without autism, and mothers with typically developing children. 18 While there are multiple possible underlying causes for this depression, the major factors appear to be associated is the unlikely remission of the autism-based behaviors that cause social criticism, and the lack of wider understanding among the public about the nature of ASD. 19 Some other factors that have been demonstrated as linked with maternal depression include the age of the child with ASD (parents of older children show higher levels of stress than parents of younger children), and the age of diagnosis (later diagnosis is associated with higher depression levels).²⁰

Although in Saudi community, the awareness of autism has increased lately, only one research²¹ was carried out in Saudi Arabia Riyadh region regarding anxiety and depression among mothers of children with ASD.

Therefore, the primary aim of this study was to evaluate the presence of depression in a group of mothers of ASD children in comparison with a group of mothers of normally developing children and its associated factors. The determination of predictors of depression among mothers caring for children with ASD may to help health professionals in identifying those mothers who need special attention to reduce their risk of psychological distress and restore their psychological well-being.

METHODS

The present study was conducted through a case control study design, 60 autistic cases diagnosed by DSM-IV-TR criteria (American psychiatric association, 1994³ diagnostic and statistical manual of mental disorders, 4th edition criteria, text revised) were recruited from Mental health clinic of children hospital Taif region KSA, and private autism center, these cases with their parents were enrolled in the group called (cases). One control subject was matched for each case in the age of mother, sex and age of the patients, they were recruited from well-baby clinic of children hospital. These cases with their mothers were enrolled in the group called (controls).

A self-reported questionnaire was utilized containing questions regarding demographic data, psychiatric history of parents, having other cases of autism in family, history of parent consanguinity, age of autism diagnosis, age of parents at time of child delivery, whether or not the mother is linked to support group, do parents take any governmental financial support, knowledge of mother about autism disorder, and the source of her knowledge.

The Arabic version of the short form Beck- depression inventory adopted by Ghareb, ²² is a 13 items, self-reported instrument that was used to assess the extent and severity of common depressive symptoms of children mothers for both cases and controls. Each BDI item assesses one symptom by presenting four choices that grade from 0-3 in the direction of increasing severity. Thus short form of BDI total score ranges from 0-39

0-4 = No depression

5-7 = Mild depression

8-15 = Moderate depression

16 and over = Severe depression

Exclusion criteria

Any case the mother was not the primary care giver of the child in cases and controls.

Any mother who has a child with physical or mental disability from the control group.

The data was analyzed using SPSS, ethical considerations including informal consents of parents-caregivers participating in the study were obtained, and approval of local research and ethics committee was obtained. As the study involved human subjects, the principals of the Helsinki Declaration were adopted.

RESULTS

Figure 1 and 2 showing comparison between ASD children and normally developed children and their mothers in relation to age and sex (case and controls) - there was no significant difference between cases and controls in relation to gender males (47) (78.3%) for both cases and controls, females (13) (21.7%) for both cases and controls. Moreover there was no statistical difference between cases and controls concerning mean of children (P = 0.65) and their mothers (P = 0.32).

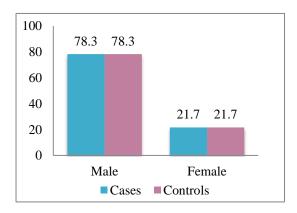


Figure 1: Comparison between cases and controls regarding the sex of the child.

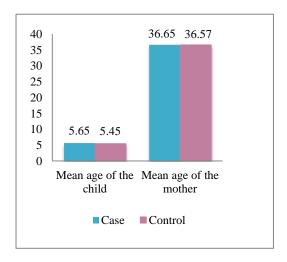


Figure 2: Comparison between cases and controls regarding the mean age of the child and the mother.

As clear in Figure 3 there was no statistical difference between mothers of ASD children and those of normal developing, history of psychiatric problem (P = 0.22), and history of chronic illness (P = 0.43).

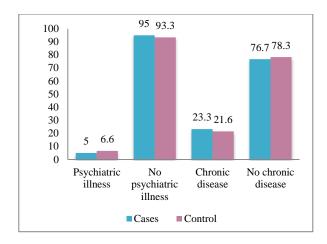


Figure 3: Comparison between cases and controls regarding psychiatric illness and chronic illnesses.

Figure 4 shows comparison between mothers of ASD children and normally developed children concerning the result of beck inventory depression scale.

20 cases versus 35 controls (33.3%, 58.3%) had no depression. Regarding mothers with severe depression 7 cases (11.7%) versus 1 control (1.7%) had severe depression, 24 of cases (40 %) versus 10 controls (16.7%) had moderate depression, 9 cases (15%) versus, and 14 controls (23.3%) had mild depression. These differences was statistically significant (P = 0.001, 0.001, 0.000)

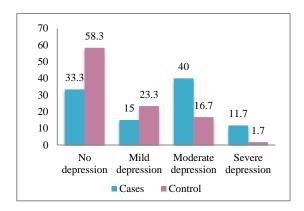


Figure 4: Comparison between cases and controls regarding level of depression.

In relation to gender, out of 47 mothers of male ASD cases 29 (61.7%) had depression versus 13 (84.6%) mothers of female ASD children, this difference was statistically significant (P = 0.049).

Although having only one child was associated with high depression out of 14 cases 10 (71.4%) were depressed, while having four and more children 25 cases (64%) were depressed, there was no statistical significant impact of the number of children of the participants on maternal depression (P = 0.72).

Concerning family income our result showed that although depression increased by increase in family income, out of 20 cases13 (65%) who reported that their monthly income was more than their needs were depressed, and out of 11 cases (54.5%) their monthly

income was not enough were depressed this difference was not statistically significant (P = 0.70). Moreover there was no statistical significant in relation to mother education (P = 0.71).

Character	No depression		Depression		Total		P value		
	N	%	N	%	N	%	1 value		
Child gender									
Male	18	38.2%	29	61.7%	47	100%	0.022		
Female	2	15.3%	11	84.6%	13	100%			
Number of children									
1	4	28.5%	10	71.4%	14	100%			
2	2	16.6%	10	71.4%	12	100%	0.72		
3	5	55.5%	4	44.4%	9	100%	0.72		
4 and more	9	36%	16	64%	25	100%			
Income									
Enough	7	35%	13	65%	20	100%			
Merely enough	8	27.5%	21	72.4%	29	100%	0.52		
Not enough	5	45.5%	6	54.5%	11	100%	•		
Level of mother's education									
Illiterate	3	50%	3	50%	6	100%			
Primary	3	60%	2	40%	4	100%			
Intermediate	4	57.1%	3	42.8%	7	100%	0.71		
Secondary	8	53.3%	7	46.6%	15	100%	0.71		
University	10	38.4%	16	61.5%	26	100%			
High	1	100%	0	0%	1	100%			

Table 1: Socio-demographic factors associated with depression among mothers of ASD children.

The Table 1 shows that mothers with no depression their ASD children mean age was (6.15 ± 2.3) , meanwhile mothers with severe depression the mean age of their children with ASD was (3.75 ± 1.5) , this difference was statistically significant (P = 0.022).

While there was no significant difference regarding the age of appearance of first autism manifestation and the time lapsed between first autism manifestation and the diagnosis (P = 0.72) consequently.

Figure 5 shows duration of autism associated with depression among mothers of ASD children. Although 65% of mothers of ASD children found to have good knowledge about autism disorder, increase in knowledge had no significant impact on maternal depression (P =0.35).

46.5% of mothers of ASD children joined a support group, 19 (70%) of those mothers had depression and were attending support group, while 20 (64.5%) were not attending support group. Thus joining these groups had no significant impact on mother depression (P = 0.44).

Concerning social support, 11 (55%) of ASD mothers who had depression were socially supported, while 28 (73.5%) had no social support. Thus having social support had a positive significant impact on maternal depression (P = 0.001).

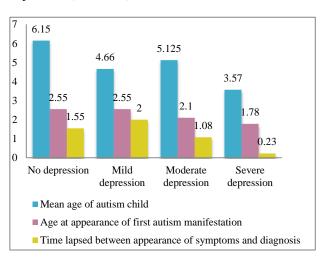


Figure 5: Duration of autism associated with depression among mothers of ASD children.

Regarding financial support 15 (25.8%) of ASD children mothers only said that they had no financial support versus 43 (74.8%) were supported financially. Out of group who were not supported 10 (66.6%) were depressed and 5 (33.3%) were not depressed. On the

other hand those who were supported 15 (34.8%) were depressed and 28 (65.1%) were not depressed. This shows great financial support effect on maternal depression (P = 0.0001).

Table 2: Support factors associated with depression among mothers of ASD children.

Character	No depression		Depression		Tota	al	P value			
	N	%	N	%	N	%	r value			
Mother knowledge										
Excellent	4	25%	12	75%	16	100%	0.35			
Good	14	35.8%	25	64.1	39	100%				
Fair	2	40%	3	60%	5	100%				
Mother support group										
Yes	8	29.5%	19	70%	27	100%	0.44			
No	11	35.4%	20	64.5%	31	100%				
Social support										
Yes	9	45%	11	55%	20	100%	0.02			
No	10	26.3%	28	73.5%	38	100%				
Financial support										
Yes	28	65.1%	15	34.8%	43	100%	0.001			
No	5	33.3%	10	66.6%	15	100%				

DISCUSSION

Recent reports suggest that the prevalence of autism in the Arab world ranges from 1.4 cases per 10000 children in Oman to 29 per 10000 children in the United Arab Emirates. ^{23,24} While these rates are lower than those of the developed world, which are 39 per 10000 for autism and 77 per 10000 for all forms of Autism Spectrum Disorders (ASD), ⁷ it does not necessarily mean the condition is less prevalent in the Arab world. Approximately two thirds of these children are permanently unable to live independently and only one third can achieve any degree of personal autonomy as adults, ⁴ which implies a high workload and ongoing concern for the caregiver.

Previous studies^{25,26} have found that parents of children with Autism Spectrum Disorders (ASD) report higher levels of child-related stress than parents of normally developing children. It has often been assumed that the extra stress of caring for a child with disabilities places parents at risk of developing psychological stresses. Studies of parents with children with disabilities^{27,28} suggest that 35%-53% of mothers with children with disabilities pass cut-off scores for depression. However, many of these studies were conducted in western countries, which still make little inferences about the prevalence of depression in Arab countries uncertain.

Our study showed that mothers of children with ASD were more susceptible to negative psychological outcomes. Depression was significantly more among

cases than controls (P = 0.001, 0.001, 0.000). Similar studies conducted in Arab countries, one in Riyadh KSA²¹ and the other in Kuwait²⁹ concluded that demands placed on parents for a child with autism contribute to a higher overall incidence of parental depression and anxiety, and adversely affects family quality of life. Moreover in the later study most mothers of autistic children felt they have failed as wives and some others were threatened with divorce or violence.

Exploring socio-demographic factors female sex had a significant impact on maternal depression (P = 0.022), this is in contrast with what is recorded in literature. Firat et al.³⁰ (2002) found that higher state and trait anxiety and depression scores in the mothers of autistic boys. . This contradiction may be due differences between western and Arab culture as although, the overall educational level of Saudi society has improved in the recent past, women are still subjected to traditional ways of thinking, that places great emphasis on healthy childbearing as an important goal for a family and motherhood is believed to be the most important role for women and, the perceived essence of women's identity. Thus being a female autistic child will make her loss her important role and will be a stigma and shame to her family causing maternal stress and depression. Concerning other socio-demographic characteristics, number of siblings, family income, level of mother education, all showed no significant impact on maternal depression (P = 0.72, 0.53, 0.71). This is consistent with result of a study conducted in Riyadh KSA²¹ evaluating the depression and anxiety among parents and caregivers of autistic spectral disorder children. It concluded that number of children has no impact on maternal depression. On the other hand, our result was not consistent with a recent study conducted to investigate the relationship between mother depression and stress compared with the severity of autism in children and the effect of family income on the relationship of these two variables, as it included that family income had a significant effect on the level of maternal depression.³¹

Considering factors related to autism in child and its impact on mother depression, age of child, age of appearance of first symptom and time lag between appearance of first symptom and diagnosis of autism were examined. The only significant factor was the mean age of autism child (P = 0.022) which is consistent with Hastigs report³² of increased dysphoria in mothers of older autistic children.

As it is evident that raising a child with an Autism Spectrum Disorder (ASD) is an overwhelming experience for parents and families, so they are in need of support majors. In relation to the support factors, while mother knowledge about autism, mother joining a support group had no significant impact on maternal depression, the social and financial support for autistic families were both significantly impacting maternal depression. Our results was consistent with a recent study³³ in which mothers of children with ASD reported that it was imperative not only to know the facts and information regarding autism but also to be educated on resources and services that are available, processes and structures within the school system, and the insurance industry. The mothers reported a variety of stressors in regard to the lack of knowledge of others and the continual fight to obtain services which was not included in our knowledge questionnaire. In concordance with our result Boyd (2011)³⁴ in a study examining the relationship between stress and lack of social support for mothers of children with autism concluded that mothers with larger support networks reported lower levels of stress. Similarly, Bristol and Schopler (1983)³⁵ found that mothers with few supports had higher levels of stress than mothers with many supports.

Concerning support group, consistent with our result Peck (1998)³⁶ evaluated the effects of a multicomponent intervention for families of young children with autism, he concluded that although the majority of parents reported positive experiences of attending the parent support group, it revealed only a modest non-significant decrease in maternal stress and depression scores. It is worth mentioning that high percentage of depression among mothers of ASD attending support group must make think over about the need to re-evaluate the efficacy of these support group in local community. Kogan et al.³⁷ concluded in his study that the uncertainty and frustration of the process produces extra tension in the family because parents who only want to know what might be wrong with their child are forced to endure a long wait.

Another added stress factor is that families with Autism Spectrum Disorders (ASD) have higher out-of-pocket expenditures, experience more financial problems, and report needing more income. This was consistent with our result that showed that the majority of our mothers of ASD whom their family had a financial support had no depression.

Although it is clear from our findings that mothers of autistic children have higher parenting-related stress and psychological distress as compared to controls, the results from the present study are limited in their generalizability due to the relatively small study sample. However, it is important to identify and offer appropriate psychiatric support for mothers who are depressed since this is a serious problem, and would appear to have the potential to disrupt the family, parenting and child. Moreover on the basis that no study has discussed the cultural and religious component of having a child with intellectual disability the need for more research on the psychosocial well-being of the parents of children with autism is clear.

Therefore we can conclude that child age, gender absence of social support had the most significant impact on maternal psychological profile, while having financial support seems a protecting factor against depression. Given the absence of a cure for autism, the limited range of support services for parents, the in-effectiveness of support groups and the consequent burden of coping with autism experienced by the families, makes the question of what factors assist parents successfully coping with autism an important one.

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Ethical approval: The study was approved by the local

research and ethics committee

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