

Mood problems of mothers with disabled children in Saudi Arabia

A preliminary prospective study

Muwafak H. Al-Eithan, MSc, PhD, Asirvatham A. Robert, MSc, MPhil, Aman H. Al-Saeed, BA.

ABSTRACT

الأهداف: الكشف عن وجود اضطرابات المزاج ودرجة حدتها عند أمهات الأطفال الذين يعانون من إعاقات .

الطريقة: أُجريت هذه الدراسة الاستطلاعية خلال الفترة من نوفمبر 2009م إلى فبراير 2010م. شملت هذه الدراسة 75 من الأمهات اللاتي لديهن أطفال يعانون من إعاقات جسدية أو حسية أو عقلية (مجموعة الدراسة)، والمنومين في مدينة الأمير سلطان للخدمات الإنسانية، الرياض، المملكة العربية السعودية، وكذلك 35 من أمهات الأطفال السليمين (مجموعة التحكم). لقد قمنا بتطبيق اختبار المستشفى للقلق والاكتئاب (HADS)، لقياس أعراض تقلبات المزاج عند الأمهات، كما وُجمعت المعلومات الديموغرافية الخاصة بالأمهات .

النتائج: كان متوسط عمر الأطفال من ذوي الإعاقات هو (4.8±3.3) عاماً، فيما كان متوسط عمر الأطفال السليمين هو (5.3±2.3) عاماً، وكانت الأعمار تتراوح عموماً ما بين 1-14 عاماً. وكان متوسط عمر أمهات الأطفال المعاقين (عدد=75) هو (39.9±7.9) عاماً، فيما كان متوسط عمر أمهات الأطفال السليمين (عدد=35) (32.3±7.9) عاماً. لقد سجلت أمهات الأطفال المعاقين درجات مرتفعة من القلق (4.9±1.9, 8.7±3.1, $p=0.027$) ودرجات مرتفعة من الاكتئاب (5.4±2.8, 7.7±3.2, $p=0.032$) ودرجات مرتفعة من المجموع الكلي لاختبار القلق والاكتئاب (9.8±3.8, 16.4±5.5, $p=0.022$) وذلك بالمقارنة مع أمهات الأطفال السليمين. كما وسجلت أمهات الإناث المعاقات درجات أعلى من الاكتئاب والقلق والمجموع الكلي لهما بالمقارنة مع أمهات الذكور المعاقين، غير أن هذه الاختلافات لم تكن عالية. ولم تكن هناك فروقاً واضحة بين المجموع الكلي لدرجات اختبار القلق والاكتئاب لدى أمهات الأطفال الذين يعانون من إعاقات حسية أو عقلية أو جسدية .

خاتمة: تشير نتائج هذه الدراسة بأن أمهات الأطفال المعاقين في السعودية قد سجلن درجات عالية من القلق والاكتئاب والمجموع الكلي لاختبار القلق والاكتئاب وذلك عند مقارنتهن مع أمهات الأطفال السليمين .

Objectives: To explore the presence and the degree of mood problems in mothers with disabled children.

Methods. We conducted a prospective study during the period of November 2009 to February 2010, in 75 mothers (study group) with physical, mental or sensory disabled children admitted at Sultan Bin Abdul-Aziz Humanitarian City, Riyadh, Saudi Arabia and 35 mothers (control group) with healthy children. The Hospital Anxiety and Depression Scale was used to measure the mood symptoms of mothers. The demographic data of mothers were also collected.

Results. The mean age of the children with disability was 4.8±3.3 and healthy children 5.3±2.3 (range 1-14) years. The mean age of mothers in the study group (n=75) was 32.3±7.9 and the control group was 39.9±7.9 years. Compared to control, mothers of disabled children scored significantly higher anxiety (4.9±1.9, 8.7±3.1, $p=0.027$), depression (5.4±2.8, 7.7±3.2, $p=0.032$), and total Hospital Anxiety and Depression Scale (HADS) (9.8±3.8, 16.4±5.5, $p=0.022$). Compared to mothers of male disabled children anxiety, depression and the HADS scored higher in mothers of female disabled children, however, these differences were not significantly significant. There was no significant differences among mothers of children with physical, sensory or mental disability on total HADS.

Conclusion: Mothers of disabled children in Saudi Arabia showed higher scores of anxiety, depression, and total HADS.

Saudi Med J 2010; Vol. 31 (10): 1161-1165

From the Department of Psychology (Al-Eithan, Al-Saeed), Medical Affairs, Sultan Bin Abdul-Aziz Humanitarian City and the Research Center, (Robert), Sultan Bin Abdul-Aziz Humanitarian City, Riyadh, Kingdom of Saudi Arabia.

Received 13th June 2010. Accepted 29th August 2010.

Address correspondence and reprint request to: Dr. Muwafak H. Al-Eithan, Director of Research Center, Sultan Bin Abdulaziz Humanitarian City, PO Box 64399, Riyadh 11536, Kingdom of Saudi Arabia. Tel. +966 (1) 5620000 Ext. 2868/5019. Fax. +966 (1) 5620000 Ext. 5048. E-mail: maleithan@humanitariancity.org.salal_eithan@yahoo.com

The World Health Organization defines disability as a contextual variable, dynamic over time and in relation to circumstances. One is more or less disabled based on the interaction between the person and the individual, institutional, and social environments.¹ Child with a disability may cause stress for parents who have the responsibility of undertaking every day care of their children, often even after their disabled children become adults.² The stigma of the disability and the prolonged grief of the parents regarding child's limited development and parents' worries about the future of their children with disability, all add to parents' emotional burden.³ Naturally, it is expected that such parents with long term stress due to caring for disabled child, would have more physical and psychological problems compared with parents of healthy children.^{4,5} The nature of the disability itself is a factor contributing to the challenges faced by such parent of disabled child and the way they cope and deal with it.⁶ Studies reported elevated rates of depressive symptoms and feelings of increased psychological distress have been reported by mothers of children with chronic illness or disabling conditions.⁷ When children diagnosed with developmental delays for instance, their parents may experience psychological turmoil similar to that experienced by suicidal individuals.⁸ In several studies, prevalence of depression in female is reported to be 2 times higher than male and it is attributed to their biologic, psychological, and socioeconomic conditions.^{9,10} Female have to deal with various roles inside and outside of the house, which are sometimes opposing.¹¹ Conversely, mothers' depression may diminish their sense of responsibility regarding taking care of their children and getting involved in their education and proper nutrition. It may also give rise to rejecting behavior and hostility toward children.¹² Olsson et al¹³ reported that mothers usually take dynamic roles in the care of their ill children and even might quit their jobs or favorite activities. Thus, they bear greater stresses than fathers and are at higher risks of depression.^{11,13} Long-term care giving can be devastating to female's finances, employment, and quality of life however only a small number of studies have directly addressed the effects of children with disability on the mothers' psychological status in Saudi Arabia if any. The present study aimed to explore the presence (and the degree) of mood symptoms of mothers having a child or more with disability and to see if there is any relationship between mood symptoms and demographic or clinical variables in this sample.

Methods. We conducted a prospective study during the period of November 2009 to February 2010, in 75 mothers (study group) with physical, mental or sensory disabled children admitted at Sultan Bin Abdul-Aziz Humanitarian City, Riyadh, Saudi Arabia

and 35 mothers (control group) with healthy children. The study was approved by the Research and Ethical Committee of Sultan Bin Abdul-Aziz Humanitarian City, Riyadh, Saudi Arabia. Written informed consent was obtained from all mothers. Patient's participation is voluntary and the data collected during the study has been handled confidentially.

Mothers of disabled children's ≥ 1 year and ≤ 14 are considered to have a physical, mental or sensory disability were included in this study. Mothers with severe or chronic medical conditions (such as stroke, and diabetes mellitus), history of psychological disorder, and acute medical condition within the last 3-months were excluded from this study. The control mothers were personally approached from the community who match the study sample as much as possible, being Saudi mothers who do not have disabled children.

The child was classified to have sensory problem if she/he suffer from hearing or vision difficulties. Mental disabilities referred to cognitive/intellectual difficulties (including language problems). Physical disabilities cover all motor problems and impaired activities of daily living (ADL). The treating consultant (physiatrist) diagnosed all children, and who gave specific diagnoses of children's type of disability. The mood symptoms measurements were assessed for the mothers using Hospital Anxiety and Depression Scale (HADS),¹⁴ Arabic version. This mood scale is very simple and easy to use by most people with no major language problems, and has no sensitive questions. In addition, it is known to have very high validity and reliability.

The HADS consists of 7 items for anxiety (HADS-A) and 7 for depression (HADS-D). The items were scored on a 4-point scale from zero (not present) to 3 (considerable). The item scores are added, giving sub-scale scores on the HADS-anxiety and the HADS-depression from 0-21.¹⁴ The demographic data of mothers were as follows: age, marital status, level of education, nationality, income, mother's employment, and numbers of children.

Statistical analysis. Data analysis were carried out using Microsoft Excel 2002 (Microsoft Corporation, Seattle, WA) and Graph Pad InStat Version 3 (Graph Pad Software, Sand Diego, USA). The demographic of mothers of disabled children and demographic data of disabled children are presented as numbers as well as percentage, whereas the Anxiety, Depression and total HADS data presented as mean \pm SEM. Tukey Kramer multiple comparison test and Student's t-test was used for analyzing the anxiety, depression, and total HADS of mothers. One-way analysis of variance (ANOVA) was used for the child type of disability and anxiety, depression and total HADS of mothers. *P*-value of < 0.05 was considered statistically significant.

Results. The mother's demographic data (marital status, level of education, nationality, income, employment, number of children, and social status) are shown in Table 1. The mean age of the children with disability was 4.8±3.3 years (range 1-14 years), and the mean age of the healthy children was 5.3±2.3 years (range 1-14). There were no significant differences in age of disabled and healthy children. The mean age of the mothers in the study group (n=75) was 32.3±7.9 years and the mean age of the mothers in the control group (n=35) was 39.9±7.9 years. There were no significant differences between the study and control groups in terms of age. Type and characterizes of disabilities among children with disabilities are shown in Table 2. There were 50.7% male and 49.3% female disabled children. Among the study group 70.6% of children suffering from physical disability, 10.7% were mental disability, and 9.4 were physically and mentally disabled (Table 2).

Table 1 - Demographic data of mothers (study and control groups) of disabled children.

Variables	Study group n (%)	Controls group n (%)
<i>No. of disabled children</i>		
Male	37 (49.3)	17 (48.6)
Female	38 (50.7)	18 (51.4)
<i>Marital status</i>		
Divorced	8 (10.6)	0.0
Married	67 (89.4)	35 (100)
<i>Level of education</i>		
None	9 (12.0)	0
Primary	10 (13.3)	10 (28.6)
Intermediate	10 (13.3)	10 (28.6)
High School	13 (17.3)	10 (28.6)
University	31 (41.3)	5 (14.2)
Technical	2 (2.6)	00
<i>Nationality</i>		
Saudi	67 (89.4)	35 (100)
Non-Saudi	8 (10.6)	0
<i>Monthly income (Saudi Riyals)</i>		
5000	35 (46.7)	10 (28.6)
5000-9000	19 (25.3)	20 (57.2)
>10000	21 (28.0)	5 (14.2)
<i>Employment status</i>		
Employed	18 (24.0)	10 (28.6)
Not employed	57 (76.0)	25 (71.4)
Retired	-	-
<i>Number of kids</i>		
1	9 (12.0)	5 (14.2)
2	19 (25.3)	10 (28.6)
>2	47 (62.7)	20 (57.2)
<i>Number of disabled kids</i>		
1	59 (78.6)	-
>2	16 (21.3)	-
Order of disabled child	3.4	-

The HADS of mothers are shown in Figure 1. Compared to control, mothers of disabled children had a significantly higher anxiety (4.9±1.9; 8.7± 3.1, $p=0.027$), depression (5.4±2.8; 7.7±3.2, $p=0.032$) and total HADS scores (9.8 ±3.8; 16.4±5.5, $p=0.022$).

The child gender and anxiety, depression, and HADS score of mothers are shown in Figure 2. Mothers of female disabled children scored higher compared

Table 2 - Type and characterizes of disabilities among children with disabilities

Type of disability	Number of disabled children	
	n	(%)
Physical	53	(70.6)
Mental	8	(10.7)
Physical + mental	7	(9.4)
Physical + sensory	1	(1.3)
Mental + sensory	1	(1.3)
Physical + mental + sensory	3	(4.0)
Sensory	2	(2.7)
<i>Permanent disability</i>		
Yes	56	(74.7)
No	19	(25.3)
<i>Duration of child disability</i>		
0-4 Years	41	(54.7)
5-8 Years	16	(21.3)
>8 Years	18	(24.0)
<i>Help needed for daily activities</i>		
Yes	67	(89.3)
No	8	(10.7)
<i>Child needs help for</i>		
Wheel chair	63	(84.0)
Feeding	53	(71.0)
Walking	62	(83.0)
Sensory	25	(33.0)
Others	19	(25.0)

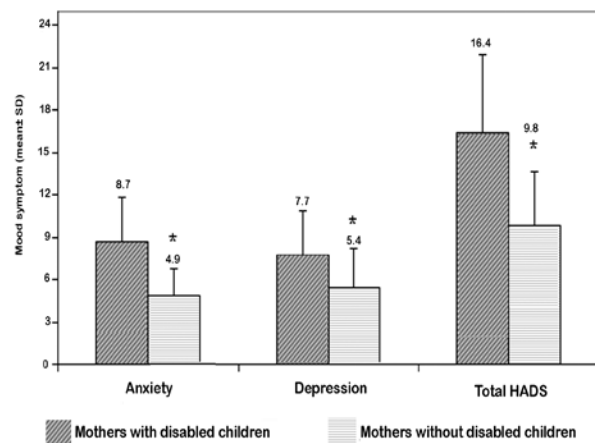


Figure 1 - The anxiety, depression, and total Hospital Anxiety and Depression Scale (HADS) score of mothers. Mothers with disabled children compared with mothers without disabled children. * $p<0.05$ (t-test).

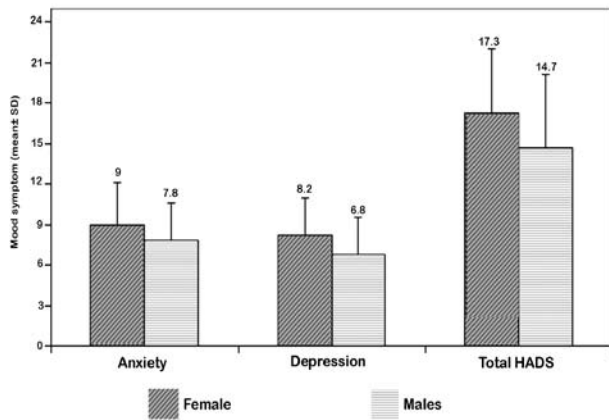


Figure 2 - Child gender and anxiety, depression, and total Hospital Anxiety and Depression Scale (HADS) score of mothers. Mothers of male disabled children compared with mothers of female disabled children. * $p > 0.05$ not significant (t-test).

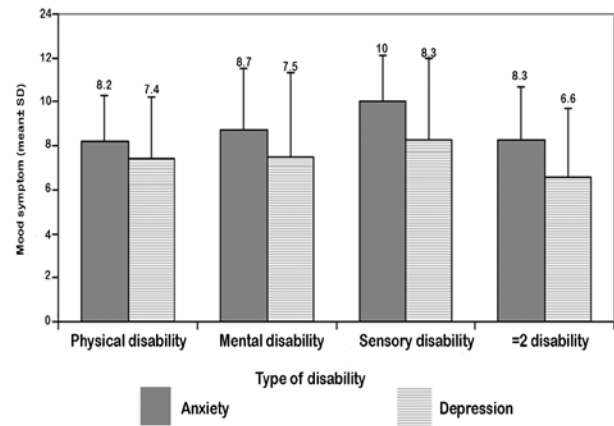


Figure 3 - Type of child disability and anxiety, depression, and total Hospital Anxiety and Depression Scale (HADS) score of mothers. One-way analysis of variance (ANOVA), Tukey-Kramer multiple comparisons test ($p > 0.05$, not significant).

with mothers of male disabled children. However, these differences were not statistically significant.

The influence of type of disability in anxiety, depression, and total HADS score are shown in Figure 3. Compared to the mother with physical and mental disabled children the anxiety, depression, and total HADS scores were higher in mothers of sensory disabled children. However, these differences were not statistically significant.

Discussion. Mothers of children with disabilities generally experience greater stress and emotional demands than do other mothers.¹⁵ Mother may face more stress since they are dealing with children on a daily bases alone. However, not all mother with disabled children are expected to suffer difficulties even when they are faced with highly distressed situations.¹⁶ Nevertheless, it has been shown that disabled children and their caring mothers are more vulnerable to stress related problems as a result of caring for disabled child.¹⁶ In contrast, it has been suggested that there were no differences between mothers with disabled children and mothers with healthy children in regard to anxiety symptoms.¹⁷ However, in this present study we observed that when compared with the control mothers, the mothers of disabled children had a significantly higher anxiety, depression, and total HADS. Mothers worry about their children's future and acceptance in its social environment; these maternal emotions can cause the risk of suffering from an anxiety disorder. This is in accordance with the results of several previous studies.¹¹⁻¹³

Children with different disabilities cause different levels of stress in their mothers.¹⁸⁻²¹ Studies reported that mothers of children with disabilities showed

higher somatization, depression, anxiety, hostility, and phobic anxiety.¹⁸ In a study of children with developmental disabilities, family variables, particularly family resources, were found to predict stress; and the impairment in child social skills had a stronger relationship to parental stress than any other aspect of functioning.¹⁹ In addition, mental retardation in the epileptic child had a significant impact on mothers. Mothers of children with impairments of speech met the criteria for depression compared to mothers of healthy children.²⁰ It was demonstrated that mothers of children with cerebral palsy experienced higher levels of stress than mothers of healthy children.²¹ In this present study, we found that anxiety, depression and total HADS scores were higher in mothers with sensory disabled children compared to mothers with physical and mental disabled children. However, these differences were not statistically significant.

Studies reported that an interaction effect of parent with child gender on the level of parenting stress was indicated.²²⁻²³ Mothers of male children were more stress than mothers of female children.²² In contrast, parents of female children experienced more stress than parents of male children.^{23,24} The boy-child behavioral characteristics may be a possible reason for this.²⁴ In this present study, we found that anxiety, depression, and total HADS scores were higher in mothers with female children compared to their counterpart. Parents of girl-child are more worried on their future. Increasing age of the girls becomes difficult to manage them. Gender and menarche issues can be stressful for parents, as they have to spend more time with their daughters and have to provide more care. These cultural factors in Saudi may play a role in the desired results.

Limited number of mothers examined and the limited control sample is one of the limitations of this

study. We also used general form of child disability classification (physical, mental and sensory). The study sample is heterogeneous and may need further sub grouping of data that represent mothers of admitted children only not living in the community. Further research is needed to address the limitations indicated in this study. Despite the limitations, the study provides valuable data for mood problems of mothers with disabled children of Saudi Arabia. This study sheds a light on the presence of the mood problems among mother's and disabled children. The mood problems seem to be present regardless of the type of the disability. In addition, this type of study among mothers with disabled children in Saudi Arabia might provide new information and understanding among the Saudi mothers of disabled children.

Here, we also indicate the importance of attending to the mental health needs of mothers with disabled children. This is imperative for the mothers in Saudi Arabia considering their other responsibilities and limited health services in general or rehabilitation facilities.

In conclusion, the findings of this study indicated that mothers of disabled children scored higher anxiety, depression, and total HADS compared to their counterpart. Our findings suggest that more attention be needed in mothers psychological status, in able to support and improve rehabilitation strategies at home. However, further studies are required in different clinical settings to provide a more comprehensive picture of mood problems of mothers with disabled children in Saudi Arabia.

Acknowledgment. *The authors gratefully acknowledges Mr. Oliver T. Marchal and Mr. C. Samuel Vetharaj (Research Center, Sultan Bin Abdulaziz Humanitarian City, Riyadh, Saudi Arabia) for their capable technical assistance.*

References

- World Health Organization (WHO): International Classification of Functioning, Disability and Health: ICF Geneva: WHO Library Cataloguing in Publication Data; 2001.
- Bilgin S, Gozum S. Reducing burnout in mothers with an intellectually disabled child: an education programme. *J Adv Nurs* 2009; 65: 2552-2561.
- Seltzer MM, Greenberg JS, Floyd FJ, Pettee Y, Hong J. Life course impacts of parenting a child with a disability. *Am J Ment Retard* 2001; 106: 265-286.
- Seltzer MM, Greenberg JS, Floyd FJ, Hong J. Accommodative coping and well-being of midlife parents of children with mental health problems or developmental disabilities. *Am J Orthopsychiatry* 2004; 74: 187-195.
- Singer GH. Meta-analysis of comparative studies of depression in mothers of children with and without developmental disabilities. *Am J Ment Retard* 2006; 111: 155-169.
- Mori K, Ujiie T, Smith A, Howlin P. Parental stress associated with caring for children with Asperger's syndrome or autism. *Pediatr Int* 2009; 51: 364-370.
- Emerson E, Llewellyn G. The mental health of Australian mothers and fathers of young children at risk of disability. *Aust N Z J Public Health* 2008; 32: 53-59.
- Ellis JB, Hirsch JK. Reasons for living in parents of developmentally delayed children. *Res Dev Disabil* 2000; 21: 323-327.
- Altshuler LL, Cohen LS, Moline ML, Kahn DA, Carpenter D, Docherty JP, et al. Treatment of depression in women: a summary of the expert consensus guidelines. *J Psychiatr Pract* 2001; 7: 185-208.
- Brommelhoff JA, Conway K, Merikangas K, Levy BR. Higher rates of depression in women: role of gender bias within the family. *J Womens Health (Larchmt)* 2004; 13: 69-76.
- Sharghi A, Karbakhsh M, Nabaei B, Meysamie A, Farrokhi A. Depression in mothers of children with thalassaemia or blood malignancies: a study from Iran. *Clin Pract Epidemiol Ment Health* 2006; 2: 27.
- Nolen-Hoeksema S, Keita GP. Women And Depression: Introduction. *Psychology of Women Quarterly* 2003; 27: 89.
- Olsson MB, Hwang CP. Depression in mothers and fathers of children with intellectual disability. *J Intellect Disabil Res* 2001; 45 (Pt 6): 535-543.
- Zigmond AS, Snaith RP. The hospital anxiety and depression scale. *Acta Psychiatr Scand* 1983; 67: 361-370.
- Emerson E, Llewellyn G. The mental health of Australian mothers and fathers of young children at risk of disability. *Aust N Z J Public Health* 2008; 32: 53-59.
- Ganong L, Doty ME, Gayer D. Mothers in postdivorce families caring for a child with cystic fibrosis. *J Pediatr Nurs* 2003; 18: 332-343.
- Ones K, Yilmaz E, Cetinkaya B, Caglar N. Assessment of the quality of life of mothers of children with cerebral palsy (primary caregivers). *Neurorehabil Neural Repair* 2005; 19: 232-237.
- Yim SY, Moon HW, Rah UW, Lee IY. Psychological characteristics of mothers of children with disabilities. *Yonsei Med J* 1996; 37: 380-384.
- Smith TB, Oliver MN, Innocenti MS. Parenting stress in families of children with disabilities. *Am J Orthopsychiatry* 2001; 71: 257-261.
- Rudolph M, Kummer P, Eysholdt U, Rosanowski F. [Speech impaired children. Anxiety, depression and quality of life of the mothers]. *HNO* 2004; 52: 561-568.
- Unsal-Delialioglu S, Kaya K, Ozel S, Gorgulu G. Depression in mothers of children with cerebral palsy and related factors in Turkey: a controlled study. *Int J Rehabil Res* 2009; 32: 199-204.
- Scher A, Sharabany R. Parenting anxiety and stress: does gender play a part at 3 months of age? *J Genet Psychol* 2005; 166: 203-213.
- Kumar V.G. Psychological stress and coping strategies of the parents of mentally challenged children. *Journal of the Indian Academy of Applied Psychology* 2008; 34: 227-231.
- Sabih F, Sajid W.B. There is significant stress among parents having children with Autism. *Rawal Medical Journal* 2008; 33: 214-216.