Psychological health of mothers caring for mentally disabled children in Qatar

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The World Health Organization (WHO) reports that the overall prevalence of mental disability is 1-3%. Literature reports that mental disability produces psychological, physical, social, and financial distress to the whole family, particularly parents, as they are virtually the only constant carers. Mothers of those children showed more psychological distress than other member in their families, as they are the primary caregivers for their children. The mothers of mentally disabled children showed significantly more psychiatric morbidity and stress than mothers of normal children, but fathers did not show the same deleterious effect on psychological health, which may be related to the differing responsibility assigned to child rearing for each parent, as the literatures showed that fathers are less involved in caregiving activities. Research has revealed that psychiatric morbidity (depression, anxiety, experiencing high levels of stress) are common among mothers of mentally disabled children. Studies from different countries on parents of children with disabilities suggested that 35-53% of mothers of children with disabilities have symptoms of depression. This study aims to compare the prevalence of psychiatric morbidity among mothers of mentally disabled children and mothers of non-disabled children in Qatar and to identify the determinants of psychiatric morbidity among mothers of mentally disabled children.

Methods. This comparative study was conducted between January and June 2005. The study recruited 2 groups of mothers with mentally disabled children and mothers of non-disabled children in Qatar, which is located in the Arabian Gulf with a population of more than 724,125, approximately 90% of which live in Doha. To conduct this study, permission and ethical approval was obtained from the Research Committee of Hamad Medical Corporation, and informed consent was obtained from each subject. Mothers of disabled children from 4 special education centers in Doha were selected as study groups based on the following inclusion criteria: Mothers with at least one child <15 years, diagnosed by a pediatrician as mentally disabled with a level of intelligence (IQ) <70, or has a known disease that is associated with mental disability, the mother must not have been diagnosed as a psychiatric case before her first

ABSTRACT

Objectives: To compare the prevalence of psychiatric morbidity among mothers of mentally disabled children and mothers of non-disabled children, and to identify the determinants associated with psychiatric morbidity.

Methods: A comparative cross-sectional study was conducted in Qatar from January to June 2005 to compare the prevalence psychiatric morbidity by using the General Health Questionnaire (GHQ-12) among 195 mothers of mentally disabled children selected as a study group, and 139 mothers with non-disabled children as a comparison group.

Results: The prevalence of psychiatric morbidity was higher among mothers caring for mentally disabled children than mothers of non-disabled children in the comparison group. The study found the following predictors for developing psychiatric morbidity: having more than one disabled child, mentally disabled child less than 5 years of age, disabled child is first in order of birth, presence of chronic illness in addition to the mental disability, and presence of other type of disability besides the mental one. We also found that educating mothers in caring for a disabled child has a protective effect on developing psychiatric morbidity.

Conclusion: Mothers of mentally disabled children have poorer psychological health than mothers of non-disabled children. Shifting the rehabilitation services from child-centered to family-centered services through providing supportive services is recommended.

Neurosciences 2007; Vol. 12 (4): 312-317

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Received 2nd February 2007. Accepted 30th May 2007.

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mentally disabled child was born. For the comparative group, 139 mothers of non-disabled children who met the following inclusion criteria were included: Mothers with children free from any mental, physical, sensory, and emotional disability, and attending the pediatric clinic in one of the selected primary health care centers. All subjects in both groups should speak and write in Arabic. Accordingly, all 223 mothers who met eligibility criteria in all 4 institutes were selected as a study group. Every mother was contacted by invitation letter from her child’s educational center to attend an interview. For the comparison group, a multi-stage sampling technique was adopted as follows: in the first stage, random sampling was used to select 4 health centers out of 10 health centers located in Doha and its outskirts listed in sampling frame list. The sample size was divided proportionally between the selected health centers according to their population density. In the second stage, 5 working days from Sunday to Thursday was sorted into 2 strata (morning shift and evening shift), and from each stratum we selected one day, namely, one day morning and one day evening for each PHC center, and a cluster of mothers attending the general pediatric clinic on the selected day and shift that met the inclusion criteria of the comparison group were recruited. The 12 items General Health Questionnaire (GHQ-12) and structured questionnaire were administered to each subject. The Arabic version of the GHQ-12 was validated by El-Rufaie & Daradkeh, and the best cut-off point was 15/16 with a sensitivity of 0.88 and a specificity of 0.84. Every subject filled the GHQ-12 by herself and the total score was calculated out of 36. The questionnaire consisted of 3 parts: the first part covered maternal personal data, including: age, marital status, educational level, occupation, income, and number of disabled children she cares for. The second part covered the child’s demographic data and medical history, including: age, gender, birth order, presence of other types of disability, and number of chronic health problems. Chronic health problems in this study were determined by the presence of one of the following diseases: congenital heart disease, chronic respiratory diseases, for example, bronchial asthma, cystic fibrosis, epilepsy, diabetes mellitus, chronic renal diseases, hemoglobinopathies, and childhood tumor. The third part covered utilization of supportive services such as: receiving education or training in caring for a disabled child, or participating in parental support group and counselling program, presence of a formal helper or nurse at home, and going to a rehabilitation school or day-care on a daily bases (5 days a week).

The Statistical Package for Social Sciences, version 10.00 for windows (SPSS-10) was used for data entry with appropriate coding. Mann-Whitney U test was used for comparison of 2 means, while Chi-square was used to evaluate the difference between proportion and categorical variables. Statistical level of significance was taken as 0.05 and 95% confidence interval (CI) was calculated. The binary logistic regression was used to assess strength of association between the dependent and independent variables under study. Odds ratio (OR) and CI were calculated in logistic regression analysis.

Results. Out of 223 mothers of mentally disabled children that met the eligibility criteria of the study group, 197 subjects participated in the study with a response rate of 88.3%. From participating mothers, 2 cases were excluded due to their history of psychiatric illness before their disabled children were born. At the end, a total of 195 mothers of children with mental disability were assigned as a study group, and 139 mothers of non-disabled children were selected as a comparison group. Table 1 shows the socio-demographic characteristics of both the study and comparison groups. The study group was older than the comparison group (p<0.05), and most mothers in both groups were currently married. The educational level was lower in the study group (p<0.05). The prevalence of psychiatric morbidity was higher in the study group (87 [44.6%]) compared with the comparison group (26 [18.7%]) (p=0.001), with a total prevalence of 33.8%. Mothers of mentally disabled children with psychiatric morbidity were significantly younger (mean ± SD = 36.15 ± 6.66 years) than mothers of disabled children without psychiatric morbidity (mean ± SD = 39.51 ± 6.88 years) (p=0.002). Also, the percentage of psychiatric morbidity among mothers of disabled children was higher among mothers who have more than one disabled children, than those mothers who are caring for only one disabled child (p=0.019) as shown in Table 2. Other characteristics such as marital status, educational level, and socio-economic status did not show any statistical significance. Table 3 shows the distribution of psychiatric morbidity among mothers with mentally disabled children according to the child’s characteristics. For the utilization of the supportive services designed for mothers of disabled children. The distribution of psychiatric morbidity among mothers with mentally disabled children according to their utilization of supportive services is shown in Table 4, and illustrates that psychiatric morbidity is lower in mothers who received education and training services in caring for disabled children and in mothers who sent their disabled children to school or day-care on a daily basis. However, having a formal helper or participating in support group services had no significant effect on psychiatric morbidity. The most significant predictors in the final best-fit model of logistic regression showed that mothers who have more than one disabled child
Table 1 - Distribution of socio-demographic characteristics of the study and comparison groups.

<table>
<thead>
<tr>
<th>Socio-demographic characteristics</th>
<th>Study group (N=195)</th>
<th>Comparison group (N=139)</th>
<th>Total (N=334)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal age (mean± SD)</td>
<td>38.0±6.9</td>
<td>33.9±6.4</td>
<td>36.4±6.4</td>
</tr>
<tr>
<td><strong>Current marital status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently married</td>
<td>184 (94.4)</td>
<td>133 (95.7)</td>
<td>317 (94.9)</td>
</tr>
<tr>
<td>Unmarried (divorced/widowed)</td>
<td>11 (5.6)</td>
<td>6 (4.3)</td>
<td>17 (5.1)</td>
</tr>
<tr>
<td><strong>Educational level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>34 (17.4)</td>
<td>7 (5.0)</td>
<td>41 (12.3)</td>
</tr>
<tr>
<td>Intermediate</td>
<td>21 (10.8)</td>
<td>11 (7.9)</td>
<td>32 (9.6)</td>
</tr>
<tr>
<td>Secondary</td>
<td>60 (30.8)</td>
<td>42 (30.2)</td>
<td>102 (30.5)</td>
</tr>
<tr>
<td>University and further</td>
<td>80 (41.0)</td>
<td>79 (56.8)</td>
<td>159 (47.6)</td>
</tr>
<tr>
<td><strong>Occupational status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working or studying</td>
<td>60 (30.8)</td>
<td>54 (38.8)</td>
<td>114 (34.1)</td>
</tr>
<tr>
<td>Housewife</td>
<td>135 (69.2)</td>
<td>85 (61.2)</td>
<td>220 (65.9)</td>
</tr>
<tr>
<td><strong>Total monthly income in Qatari Riyals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;5,000</td>
<td>56 (28.7)</td>
<td>34 (24.4)</td>
<td>90 (26.9)</td>
</tr>
<tr>
<td>5,000-9,999</td>
<td>64 (32.8)</td>
<td>40 (28.8)</td>
<td>104 (31.1)</td>
</tr>
<tr>
<td>10,000-14,999</td>
<td>38 (19.5)</td>
<td>40 (28.8)</td>
<td>78 (23.4)</td>
</tr>
<tr>
<td>≥15,000</td>
<td>37 (19.0)</td>
<td>25 (18.0)</td>
<td>62 (18.6)</td>
</tr>
</tbody>
</table>

Table 2 - Distribution of psychiatric morbidity among mothers with mentally disabled children according to their characteristics.

<table>
<thead>
<tr>
<th>Maternal variable</th>
<th>Presence of minor psychiatric morbidity</th>
<th>Psychiatric cases</th>
<th>Non-psychiatric cases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Marital status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Currently married</td>
<td>82 (44.3)</td>
<td>103 (55.7)</td>
<td></td>
</tr>
<tr>
<td>Currently not married</td>
<td>5 (50.0)</td>
<td>5 (50.0)</td>
<td></td>
</tr>
<tr>
<td><strong>Educational Level</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>9 (26.3)</td>
<td>25 (73.5)</td>
<td></td>
</tr>
<tr>
<td>Intermediate</td>
<td>9 (42.9)</td>
<td>12 (57.1)</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>32 (53.3)</td>
<td>28 (46.7)</td>
<td></td>
</tr>
<tr>
<td>University</td>
<td>37 (46.3)</td>
<td>43 (53.7)</td>
<td></td>
</tr>
<tr>
<td><strong>Occupational status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working or studying</td>
<td>30 (50.0)</td>
<td>30 (50.0)</td>
<td></td>
</tr>
<tr>
<td>Housewife</td>
<td>57 (42.2)</td>
<td>78 (57.8)</td>
<td></td>
</tr>
<tr>
<td><strong>Monthly income in Qatari Riyals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;5,000</td>
<td>23 (41.1)</td>
<td>33 (58.9)</td>
<td></td>
</tr>
<tr>
<td>5,000-9,999</td>
<td>34 (53.1)</td>
<td>30 (46.9)</td>
<td></td>
</tr>
<tr>
<td>10,000-14,999</td>
<td>16 (42.1)</td>
<td>22 (57.9)</td>
<td></td>
</tr>
<tr>
<td>≥15,000</td>
<td>14 (37.8)</td>
<td>23 (62.2)</td>
<td></td>
</tr>
<tr>
<td><strong>Number of disabled children within the family</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One (n=175)</td>
<td>73 (41.7)</td>
<td>102 (58.3)</td>
<td></td>
</tr>
<tr>
<td>Two or more (n=20)</td>
<td>14 (70.0)</td>
<td>6 (30.0)</td>
<td></td>
</tr>
</tbody>
</table>

*χ² = 4.723, degrees of freedom = 1, p-value=0.019

Table 3 - Distribution of psychiatric morbidity among mothers with mentally disabled children according to their children's characteristics.

<table>
<thead>
<tr>
<th>Child's variable</th>
<th>Presence of minor psychiatric morbidity</th>
<th>Psychiatric cases</th>
<th>Non-psychiatric cases</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Children's age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;5 years (n=42)</td>
<td>28 (66.7)</td>
<td>14 (33.3)</td>
<td></td>
</tr>
<tr>
<td>5-9 years (n=56)</td>
<td>18 (32.1)</td>
<td>38 (67.9)</td>
<td></td>
</tr>
<tr>
<td>10-14 (n=97)</td>
<td>41 (42.3)</td>
<td>56 (57.7)</td>
<td></td>
</tr>
<tr>
<td><strong>Child's gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male (n=117)</td>
<td>50 (42.7)</td>
<td>67 (57.3)</td>
<td></td>
</tr>
<tr>
<td>Female (n=78)</td>
<td>37 (47.4)</td>
<td>41 (52.6)</td>
<td></td>
</tr>
<tr>
<td><strong>Child's birth order</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1st (n=51)</td>
<td>32 (62.7)</td>
<td>19 (37.3)</td>
<td></td>
</tr>
<tr>
<td>2nd (n=27)</td>
<td>14 (51.9)</td>
<td>13 (48.1)</td>
<td></td>
</tr>
<tr>
<td>3rd or more (n=117)</td>
<td>45 (38.5)</td>
<td>72 (61.5)</td>
<td></td>
</tr>
<tr>
<td><strong>Child's diagnosis</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Down's syndrome (n=83)</td>
<td>31 (37.4)</td>
<td>54 (62.6)</td>
<td></td>
</tr>
<tr>
<td>Cerebral palsy (n=62)</td>
<td>33 (53.2)</td>
<td>30 (46.8)</td>
<td></td>
</tr>
<tr>
<td>Autism (n=17)</td>
<td>7 (41.2)</td>
<td>11 (58.8)</td>
<td></td>
</tr>
<tr>
<td>Other diseases (n=33)</td>
<td>19 (57.6)</td>
<td>14 (42.4)</td>
<td></td>
</tr>
<tr>
<td><strong>Presence of other disability</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes (n=91)</td>
<td>52 (57.1)</td>
<td>49 (42.9)</td>
<td></td>
</tr>
<tr>
<td>No (n=104)</td>
<td>39 (37.5)</td>
<td>65 (62.5)</td>
<td></td>
</tr>
<tr>
<td><strong>Number of child's chronic illnesses</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No chronic illness (n=109)</td>
<td>37 (33.9)</td>
<td>72 (66.1)</td>
<td></td>
</tr>
<tr>
<td>One chronic illness (n=61)</td>
<td>37 (60.7)</td>
<td>24 (39.3)</td>
<td></td>
</tr>
<tr>
<td>Two or more chronic illnesses (n=25)</td>
<td>19 (76.0)</td>
<td>6 (24.0)</td>
<td></td>
</tr>
</tbody>
</table>

*χ² = 12.01, degrees of freedom (df) = 2, p-value=0.002.

**χ² = 9.73, df = 2, p-value=0.008; χ² = 5.08, df = 1, p-value <0.05; χ² = 20.63, df = 2, p-value=0.001**
were approximately 4 times as likely to develop psychiatric morbidity as compared to mothers with one disabled child (OR=4.3, 95% CI=1.6-13.4). Mothers were approximately 3 times more likely to develop psychiatric morbidity if their mentally disabled children were first in order of birth (OR=2.8, 95% CI=1.3-6.0). Mothers of children with more than one disability were approximately 3 times more likely to develop psychiatric morbidity than those of children with mental disability only (OR=2.7, 95% CI=1.3-5.3), while those who have mentally disabled children with chronic illness were approximately 2 times more likely to develop psychiatric morbidity (OR=2.2, 95% CI=1.1-4.4). Being a mother of a mentally disabled child below 5 years of age increased the risk for developing psychiatric morbidity by 2 times compared to mothers of older children (OR=2.0, 95% CI=1.1-4.2). However, receiving training and education in caring for disabled children reduced the risk for psychiatric morbidity (OR= 0.3, 95% CI=0.1-0.6).

**Discussion.** This comparative cross-sectional study was designed to compare the psychological health status of mothers caring for mentally disabled children with mothers of non-disabled children in the Qatari society. In the present study, the prevalence of psychiatric morbidity was significantly higher among mothers of children with mental disability than mothers of non-disabled children. This difference in prevalence of psychiatric morbidity among mothers caring for mentally disabled children was demonstrated in different studies. In a British study the difference in prevalence was slightly smaller. It was 35% for mothers of mentally disabled children and 25% for comparison mothers by using GHQ. Also, using different psychometric tools showed similar difference in a Swedish study. Consistent with previous research in different parts of the world; the prevalence of psychiatric morbidity among mothers with mentally disabled children was within the reported range. It was similar to the prevalence reported among Turkish, Asian British, and Swedish mothers, slightly higher than the prevalence among British mothers, and lower than the prevalence among Icelandic mothers. Although the difference between the studies was very small, such a difference should be expected due to different types of psychometric tools used, difference in the age of children, setting of the study, geographical variation that implies difference in culture, economic status, and health care service. In general, this result indicates that mothers caring for mentally disabled children in the Qatari society have similar psychological distress that mothers in different parts of the world faced. The mothers experienced various degrees of psychological distress due to parental reaction towards irreversibility of the intellectual disability, social stigma, anticipation of future, and caring demand.

The determination of predictors of psychiatric morbidity among mothers caring for mentally disabled children gives a clear picture of the association between independent variables and psychiatric morbidity after controlling for confounders, 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. In this study, some determinants were identified as predictors of psychiatric morbidity among mothers of mentally disabled children. Most of these predictors were child related. The strongest predictor for psychiatric morbidity was having more than one disabled child. The possibility of having maternal psychiatric morbidity increases as the number of disabled children caring for within the family increases. Mothers caring for 2 or more disabled children have a higher prevalence of psychiatric morbidity than mothers caring for only one disabled child. A similar finding was reported by Firat. In agreement with a British study, the current study concludes that the presence of physical disability is considered as predictor of psychiatric morbidity among mothers of mentally disabled children, but in this study the OR of this predictor was higher than that found in the British study (2.7 compared to 1.6). This association was reported by many studies, which can be attributed to the degree...
of child dependency on the mother in daily activities of
life, for example, toileting, bathing, feeding, clothing,
and mobility, which increase the burden of caring. It
has been reported that caring for children with multiple
disabilities increases the maternal caregiving hours.\textsuperscript{20}

The presence of chronic illness in the mentally disabled
child was also found to be one of the predictors for
psychiatric morbidity. The finding agreed with reports
by other researchers.\textsuperscript{19,21} This association can be explained
by the well-documented observation that chronic illness
can cause stress for the mother of the child slightly lower
than that caused by disability.\textsuperscript{21} Also, chronic illness
increases the caregiving burden in term of appointments,
medication, and life style modification.\textsuperscript{20} In addition,
some chronic illnesses associated with mental disability
are life-threatening illness, for example, congenital heart
diseases, which increased parental burden. Furthermore,
having a child below 5 years of age with mental disability
is considered to be one of the predictors of maternal
psychiatric morbidity. The study showed psychiatric
morbidity more prevalent among mothers of preschool
age mentally disabled children (<5 years) than mothers
of children aged 5-9 years, however, this level returns to
an increase among mothers of older children aged 10-
14 years. Glidden and Schoolcraft\textsuperscript{22} reported this trend
of 2 peaks of distress in early childhood and adolescence
stage in their longitudinal study.\textsuperscript{22} It is well documented
that there are defined transformational points for high
distress for both parents of a mentally disabled child
(period after diagnosis, school entry, adolescence).\textsuperscript{23} The
highest level of psychiatric morbidity among mothers
of preschool mentally disabled children was reported in
a Korean study.\textsuperscript{24} This finding can be attributed to the
pathway of coping process (shock, denial, depression,
acceptance, and adaptation) and in these years, mothers
will be in the early stage of this process and when
adaptation will take place varies according to many
factors in the personality and social environment. For
instance, it has been found that the period just after
diagnosis of a disabled child is characterized by more
intense parental psychological distress.\textsuperscript{25} Therefore,
health professionals recommend early intervention for
parental distress in this period.\textsuperscript{26} Another explanation
can be added that children <5 years of age are less likely
to go to school or day care on a daily basis, as they go
to an early intervention unit twice a week for 2 hours
only accompanied by their mothers. So, they stick to
their mothers for the whole day, and as a result of that
burden increase, mothers do not have spare time for
themselves. This explanation is supported, as it has been
found by some researchers that maternal caregiving time
increases as the child’s age decreases.\textsuperscript{21} However,
the second increase in prevalence of psychiatric morbidity
among mothers of children aged 10-14 years can refer
to the needs of the adolescence period in mentally
disabled children, for example, behavioral changes, and
controlling the child becomes more difficult as the child
becomes older, and parental anticipation of the child’s
future. Receiving information on the disability and
training in caring for a mentally disabled child reduces
the risk of developing psychiatric morbidity in mothers
of mentally disabled children, meaning that such an
intervention has a preventive effect for psychiatric
morbidity in those mothers. Many studies showed that
providing adequate information on child disability and
the availability of services along with caring skills training
during dealing with a disabled child has a great impact on
reducing the psychological distress among mothers of
disabled children.\textsuperscript{27-30} Taanila et al\textsuperscript{31} found that Finish
parents, who received information and advice in caring
for their disabled children, reported positive feelings
toward caring for their children. Such an intervention
may clarify the ambiguity of the situation and the future
through the given information about the disability. In
addition to that, it helps mothers to cope faster through
the caring skills taught to them.

Apart from physical disability, this study did not
find any effect of other predictors reported by other
studies such as poverty, autism, lone parent, ethnicity,
and gender of the disabled child.\textsuperscript{3,14} This difference in
predictors may be attributed to differences between the
communities. Also, it failed to find any effect for some
interventions such as support groups or counselling.
Although mothers caring for mentally disabled children
who participate in psychological support activities,
such as paternal support groups or counselling, showed
a low prevalence of psychiatric morbidity compared
to mothers who did not participate in such activities,
such an effect was not significant in logistic regression
analysis. However, several studies reported that support
groups reduce maternal depression and showed
significant improvement in the psychological well-being
of mothers.\textsuperscript{31-34} In Qatar, support groups and counselling
programs are newly established programs in one center
only, therefore, it may need some time to be effective or
the content of this program may not consider the need
of the mothers. In addition, the design used in this study
was unsuitable to evaluate the effect of interventions.

In conclusion, we found that psychiatric morbidity
was higher among mothers of children with mental
disability than mothers of non-disabled children. The
strongest predictor for psychiatric morbidity is having
more than one disabled child. Whereas, receiving
education and training in caring for a mentally
disabled child has a preventive effect. Based on these
conclusions, the rehabilitation institutes should
shift their services from child-centered to family-
centered services by increasing awareness of health
maintenance organizations and rehabilitation centers on the importance of involving families in their services through providing psychological assessment for mothers and offering family psychological support service units within the institutes. Educational activities for parents on parenting a disabled child, the availability of services, and how to utilize them. All these services should start once the mentally disabled child is born to help the parents in coping, and should be extensively provided for mothers at more risk to develop psychiatric morbidity, such as mothers of children with multiple disabilities and chronically ill, as well as mothers of more than one disabled child and those with preschool age disabled children.

Acknowledgment. Sincere thanks to all rehabilitation centers and special educational schools in the State of Qatar for their cooperation in this study.

References