

# Prevalence and correlates of psychiatric morbidity among caregivers of children and adolescents with neuropsychiatric disorders in Nigeria

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## Abstract

**Objective:** To screen for psychiatric morbidity among caregivers of patients attending a child and adolescent psychiatric clinic. **Method:** A total of 155 patients and their caregivers were consecutively recruited over a 1 month period. Sociodemographic and clinical information on patients was obtained either from the hospital records or from the caregiver. Scoring on the Children's Global Assessment Scale (CGAS) was done by clinicians. The caregivers were administered a sociodemographic questionnaire, GHQ-12, Zarit Burden interview, and the Columbia Impairment Scale. **Results:** Most caregivers observed in this study were females (80.5%) with mothers of the patients accounting for 78% of all the caregivers. A higher percentage of the patients were males (52.8%). Among the caregivers, 39.4% had GHQ Scores of 3 and above. Factors associated with psychiatric morbidity among caregivers include the high level of subjective burden of care, low level of functioning, high degree of impairment and low level of education among patients. **Conclusion:** The study reveals a high level of psychiatric morbidity among the carers of children and adolescents with mental health problems.

**Keywords:** Psychiatric morbidity; Care giver; Children and adolescents

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## Introduction

Care-giving refers to provision of assistance to other people who, as a result of poor health or cognitive impairment, are unable to carry out certain fundamental activities on their own.<sup>1</sup> The caregiver is usually a relative of the individual with poor health and the care given is invariably continuous. Caregivers are more likely than non care-givers to disregard their own health care needs.<sup>2</sup> There is also an increased incidence of verbal abuse, threats, temper outbursts and physical aggression towards caregivers of mentally unwell patients.<sup>3</sup>

Given the magnitude of services provided and the sacrifices made by family caregivers, the adverse consequences of care-giving have emerged as a serious

public health concern.<sup>4,5</sup> Among the numerous psychiatric disorders seen among caregivers, depression was reported to be one of the first symptoms experienced and also the most enduring psychological outcome for this group.<sup>6,7</sup> Anxiety disorders are also commonly seen among the caregivers especially panic attacks, phobias and generalized anxiety disorders.<sup>8</sup> Other psychiatric disorders that may be seen among this group of people include substance and alcohol use disorders and chronic sleep disturbances.<sup>9,10</sup>

In a study of over 2000 families caring for a family member with seriously poor health in the United States, nearly 20% of caregivers quit work or made major life rearrangements to provide care, 31% of families lost most of their savings, and 29% reported loss of their main source of income.<sup>11</sup> For many caregivers, care giving becomes a full time job.<sup>12</sup>

In the child and adolescent setting, psychiatric morbidity among caregivers has been reported to be as

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high as 76.9%.<sup>13</sup> Predictors of psychiatric morbidity among caregivers are the patient's behaviour and their cognitive and functional ability, hours of care, stressful life events, extent of social support, age and gender.<sup>14-16</sup>

This study aimed to investigate the prevalence of psychiatric morbidity among carers of patients attending a child and adolescent neuropsychiatric clinic. The study also sought to determine the correlates of psychiatric morbidity among caregivers.

## Methods

### Location of the Study

The study was carried out at the Harvey Road Child and Adolescent Centre, a unit of the Federal Neuropsychiatric Hospital, Yaba, Lagos. The Centre was established in May 1999 to cater for children and adolescents with various neuropsychiatric disorders. Patients are seen from within and outside Lagos State.

### Sampling

Over a one month period, caregivers of consecutive patients attending the outpatient clinic were approached to be recruited in the study. A total of 155 caregivers consented to take part in the study.

### Instruments

The caregivers were administered a sociodemographic questionnaire, the 12-item version of the General Health Questionnaire (GHQ-12), the Columbia Impairment Scale and the Zarit Burden Interview. GHQ-12 was used to screen for psychiatric morbidity in the caregiver using a cut-off of 3 and above for caseness. The GHQ-12 has been widely used in this environment to screen for psychiatric morbidity and the cut-off of 3 used in the validation study was shown to have good specificity and sensitivity.<sup>17</sup> The Columbia Impairment Scale was used to obtain the caregiver's assessment of impairment in the patient while the Zarit Burden Interview is a self-administered 22-item questionnaire used to determine the level of burden.

Those who could not read nor write were assisted by the authors to complete the questionnaires. Other variables such as clinical diagnoses were obtained from the patients' case files. The diagnoses of all patients had been verified by the consultants in charge of the unit. The sociodemographic information on patients was obtained from the hospital records, with further clarification made from the caregiver where necessary. Scoring on the Children's Global Assessment Scale (CGAS) was performed by clinicians.

### Ethical consideration

The Ethics and Research Committee of the hospital approved the study protocol while informed consent was obtained from the caregivers after the aims and objectives of the study had been explained to them. Where appropriate, consent was also obtained from the patients themselves. The process of data collection was non-invasive and was carried out without undue risks to the patient. The subjects bore no financial cost at any stage of the study. Those caregivers who had psychiatric morbidity were offered expert assistance.

## Data analysis

Statistical analysis was performed using Statistical Package for Social Sciences (SPSS), version 14. Results were calculated as frequencies. Comparison of variables with presence of psychiatric morbidity was done using Chi-square, Independent sample T-test and, where appropriate, the Man Whitney U test. Spearman's correlation was used to compare continuous variables. Tests were two-tailed and level of significance was set at 95%.

## Results

### Sociodemographic

A total of 155 caregivers were interviewed. Most of the caregivers were females (80.5%) with 78.0% of these being the mothers of the patients, while most of the patients in the study were males (52.8%). The mean age of caregivers was 41.5 years [sd +/- 8.9]. The mean age of patients was 12.3 years [sd +/- 4.98]. A high proportion of the patients (43.0%) had been unwell for more than 6 years. Details of other sociodemographic data are reported in Table I.

**Table I: Socio-demographic factors**

Variable	n	percentage(%)
<b>PATIENT</b>		
Sex		
Male	75	52.8%
Female	67	47.2%
Educational Class		
None	3	2.0%
Nursery/primary	46	30.9%
Secondary	32	21.5%
Vocational	26	17.4%
Tertiary	40	26.8%
Out of school	2	1.3%
Duration of Neuropsychiatric Condition		
<1year	18	12.1%
1-5years	60	40.3%
6-10years	40	26.8%
>10years	31	20.8%
<b>CAREGIVER PROFILE</b>		
Caregiver		
Mother	110	78.0%
Father	19	13.5%
Sibling	4	2.8%
Aunt	3	2.1%
Others	5	3.5%
Employment		
Employed	129	85.4%
Unemployed	22	14.6%
Marital status		
Married	115	82.1%
Separated	10	7.1%
Single	2	1.4%
Widow/widower	11	7.9%
Divorced	2	1.4%
Religion		
Islam	41	26.5%
Christian	110	71.0%
Other	4	2.5%

### Psychiatric morbidity

A total of 61 caregivers (39.4%) were found to have psychiatric morbidity, having scored 3 or more on the GHQ-12.

### Zarit, Impairment and CGAS scores

The mean score of the caregivers on the Zarit scale was 27.89 (sd +/- 17.16), while a mean score of 16.38 (sd +/- 14.30) and 6.05 (sd +/- 2.30) were calculated for the impairment and CGAS scales respectively.

### Patient Diagnoses

A high proportion of the patients [56.4%] had a main diagnosis of seizure disorder. Other main diagnoses included: attention deficit/hyperactivity disorder [16.2%]; autism [6.8%]; mood disorder [7.7%]; organic psychosis [1.7%]; schizophrenia [1.7%]; unspecified psychosis [6.8%]; and mental retardation [2.6%]. Thirty-seven percent had comorbid conditions, mainly mental retardation and, in two cases, sickle cell disease.

### Comparison of psychiatric morbidity with the various variables

Chi-Square was used to determine associations between psychiatric morbidity and the various sociodemographic variables of both patients and caregivers. To compare the ages of both groups with psychiatric morbidity, an independent T-test was used. There was no significant relationship between the mean ages of both the patients and the caregivers with the presence of psychiatric morbidity in the caregiver (age of patient, T test = -1.348,  $p = 0.178$ ; age of caregiver, T test = -0.335,  $p = 0.738$ ). In addition, the results showed that there was no significant relationship between having psychiatric morbidity and all the other sociodemographic variables of both the patients and their caregivers ( $P > 0.05$ ), except for the educational level of the patient (Table II). Using chi square, it was also observed that there was no significant association between psychiatric morbidity and the presence of psychosis or comorbid psychiatric conditions in the patient ( $P > 0.05$ ) (Table II).

### Comparison of psychiatric morbidity with the various scores

Factors associated with psychiatric morbidity included: level of impairment (Man Whitney U=1292.000,  $z = -5.585$ ,  $p = 0.000$ ); Zarit scores (Man Whitney U=784.500,  $z = -7.630$ ,  $p = 0.000$ ); and CGAS (Man Whitney U=1421.000,  $z = -3.151$ ,  $p = 0.002$ ). GHQ scores

were strongly correlated with Zarit scores (correlation coefficient=0.709,  $P$  value=0.000) but less strongly correlated with level of disability (correlation coefficient=0.466,  $P$  value =0.000).

### Discussion

The study showed that there is a high level of psychiatric morbidity among the caregivers of children and adolescents attending the clinic. The factors associated with psychiatric morbidity included: the low level of functioning as assessed by the clinician; the high degree of impairment as assessed by the caregiver; the high level of caregiver burden; and low educational level of the patient.

As in previous studies in this environment, a higher percentage of the patients were males.<sup>18,19</sup> The gender and age of the patient were however not significantly associated with psychiatric morbidity in the caregiver. Female caregivers (especially mothers) were predominant in this study as was also reported in other studies in this environment.<sup>18</sup> This again highlights the previously described challenges faced by mothers, who are often the ones who need to quit work in order to take care of their children.<sup>20</sup> Gender of the caregiver and relationship with the patient were however not significantly associated with presence of psychiatric morbidity in the caregiver. The study therefore suggests that caring for a mentally unwell child is burdensome on the caregiver, regardless of gender or relationship. Age of caregiver, marital and employment status were also not associated with psychiatric morbidity.

The duration of the neuropsychiatric condition and the diagnosis of the patient, including whether or not there are comorbid conditions or the presence of psychosis, were also not associated with psychiatric morbidity in the caregiver. Other investigators have reported severe psychotic symptoms in the child as being associated with high burden of care in the caregiver and consequently psychiatric morbidity.<sup>21</sup> This finding may be clarified by further research.

Among the caregivers, 39.4% had psychiatric morbidity, having scored 3 or more on GHQ-12. This rate can be said to be very high when compared to the prevalence rates of psychiatric disorders in the general population as reported in the recent National Morbidity Survey in Nigeria by Gureje et al, who found a prevalence rate of 4.1% for depression, 5.7% for anxiety disorder and lower rates for other psychiatric conditions.<sup>22</sup> The high rate of morbidity among caregivers compared to the general population may be due to a number of factors. One of such is that caregivers may be subjected to constant stress which may therefore be a significant risk factor for developing psychiatric morbidity. This constant stress has been linked to a high rate of increase in Interleukin-6 (IL-6) in caregivers (about four times greater than that of non caregivers).<sup>23</sup> Overproduction of IL-6, a pro-inflammatory cytokine, is associated with a spectrum of disorders including depression, age-related conditions including cardiovascular disease, osteoporosis, arthritis, type 2 diabetes, certain cancers, periodontal disease, frailty, and functional decline.<sup>23</sup>

Another possible reason for this high rate may be the influence of genetics. For instance, Grupp-Phelan et al reported that children with mental health concerns are more likely to have mothers who screen positive for a neuropsychiatric condition.<sup>20</sup>

Higher prevalence rates of psychiatric morbidity have however been reported among Caucasian caregivers. For instance Cooper et al reported a rate of 76.9% among caregivers of

**Table II: Relationship between psychiatric morbidity among caregivers and various factors in both patients and caregivers**

Factor	Chi-square test	df	P value
<b>Patient factors</b>			
Sex	$X^2$ , 0.016	1	0.900
Education	$X^2$ , 11.634	3	0.009*
Duration of neuropsychiatry condition	$X^2$ , 2.523	2	0.283
<b>Caregiver factors</b>			
Sex	$X^2$ , 1.681	1	0.195
Employment status	$X^2$ , 0.015	1	0.903
Marital status	$X^2$ , 0.272	4	0.992
Relationship to patient	$X^2$ , 6.707	4	0.152
*significant			

children with Tourette's disorder.<sup>13</sup> Reasons for the lower rates in the current study (compared to other studies conducted in Caucasians) may be the better health on all scales observed among negroid caregivers compared to Caucasian caregivers.<sup>24</sup> This better health has been attributed to race, strong ethnic beliefs about care giving and spirituality among blacks.<sup>24</sup>

#### Associated factors

In this study, factors associated with psychiatric morbidity include: the child's low level of functioning as assessed by the clinician; the child's high degree of impairment as assessed by the caregiver; and the high level of caregiver burden. Caregiver burden has been found to be the strongest predictor of psychiatric morbidity among caregivers.<sup>25</sup> Also, as in this study, caregiver burden has been significantly correlated with GHQ caseness.<sup>13</sup> The higher rate of psychiatric morbidity as reported in this study among caregivers of patients with lower level of functioning (compared with those with higher level of functioning) has also been reported by various other authors.<sup>26</sup> Molyneux for instance reported that the more problem behaviours identified and the greater the functional impairment of the patient, the higher the strain score deciles and the more likely the carer was to have psychiatric morbidity.<sup>14</sup>

#### Conclusion

This study has shown that psychiatric morbidity among caregivers of children and adolescents with neuropsychiatric disorders is very high, with burden of care being the most important factor responsible for this. Assisting such caregivers to reduce the burden of caring for their wards should benefit their psychological health. The study is limited in that it was carried out in only one centre. This limits the extent to which the findings are generalisable. The small sample size is also a limitation which larger studies can improve upon.

Child mental health services cannot be considered adequate unless they factor in the needs of the carers. These needs include access to information, social resources, and better access to treatment for physical and psychological problems. More studies need to be conducted on various aspects of caregiver status such as subjective and objective burden, strengths and needs, quality of life, treatment satisfaction and coping with stigma.

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