Caregiver burden in families of patients with depression attending Obafemi Awolowo University teaching hospitals complex Ile-Ife Nigeria

Kamildeen Oladimeji Olawale, M.B.B.S., F.M.C.Psych. [a], Kolawole Samuel Mosaku, M.B.B.S., F.M.C.Psych. [b,*], 'Femi Olusegun Fatoye, BSc, M.B.ChB., F.M.C.Psych. [b], Boladale Moyosore Mapayi, M.B.ChB.,M. Clin. Psychol. F.W.A.C.P. [b], Olakunle Ayokunmi Oginni, M.B.B.S. [c]

[a] Department of Psychiatry, Ring Road State Hospital, Ibadan, Oyo State, Nigeria
[b] Department of Mental Health, Obafemi Awolowo University/Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Osun State, Nigeria
[c] Department of Mental Health, Obafemi Awolowo University Teaching Hospitals Complex, Ile-Ife, Osun State, Nigeria

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ABSTRACT

Objective: The objective of this study was to assess caregiver burden among relatives of patients on treatment for depressive disorder attending the psychiatry outpatient clinic of the Obafemi Awolowo University Teaching Hospitals Complex, Ile Ife, Nigeria.
Methods: A cross sectional design was used. Hundred caregivers of patients with *ICD-10* diagnosis of depression, on outpatient treatment for at least six months were recruited from the psychiatric outpatient clinic. Caregivers completed a semi-structured socio-demographic questionnaire, the Zarit Burden Interview and General Health Questionnaire (GHQ) 12. Descriptive statistics were used to describe socio-demographic variables; association between dependent and independent variables were assessed using Pearson's correlation, chi squared and t test as appropriate.
Results: The mean ZBI score was 41.32 (S.D. = 9.82), 45% of respondents reported moderate to severe burden, spouses constituted 57% of caregivers. Age at onset of depression ($t = 2.46$, $P = .02$) number of hospitalization,($\chi^2 = 9.82$, $P = 0.001$), and current active symptoms ($\chi^2 = 36.1$, $P = .001$) were all significantly associated with burden score. Severity of symptoms ($r = 0.48$, $P < .01$) and age at onset of illness ($r = -0.26$, $P < .01$) both correlated significantly with burden scores, while GHQ score among caregivers also correlated significantly with burden scores ($r = 0.52$, $P < .01$).
Conclusions: Caregivers of depressed patients experience moderate to severe burden. Caring for the depressed need to change from a patient focused approach to a combined patient and caregiver approach.

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1. Introduction

Depressive disorders are the leading cause of disability as measured by YLDs (Years Lived with Disability) [1]. According to the World Health Organization [2], by the year 2030, depression will become the second leading cause of disease burden worldwide after HIV.

In recent years, there has been a shift towards community care of psychiatric patients including depression; the result is the transfer of huge responsibilities to family members [3]. The extended family network often serve as a source of support for these patients especially in developing countries like Nigeria, however this is not without profound psychosocial, physical and financial burdens on family members [4].

The term *caregiver burden* refers to the experience of caring for an ill relative or friend [5]; The burden could be objective such as disruption of family relationships, constraints in social, leisure and work activities, and the negative impact on caregiver's physical health or subjective, which describes the psychological reactions such as sadness, anxiety, the stress of coping with disturbing behaviors and the frustration caused by changing relationships [6].

The most frequent predictors of caregiver burden are patients' symptoms and illness related deficits [7]. Other predictors include the duration of the illness, time involved in care giving, the residential situation between caregiver and care recipient, stigma associated with the illness, contact with mental health professionals, family atmosphere, patient violence to self or others [8–10]. A 5-year follow-up of caregiver burden and its predictors in relatives of schizophrenic and depressed patients found that relatives with high levels of expressed emotions had significantly more objective and subjective burden as well as lower satisfaction with life [11].

Most studies on burden in Nigeria have been among caregivers of schizophrenic patients. Ohaeri & Fido [12] also assessed the severity of burden among relatives of schizophrenic patients and patients with

* Corresponding author. Tel.: +234 8037115412.
E-mail address: kmosaku@yahoo.co.uk (K.S. Mosaku).

major affective disorder and concluded that disturbed behavior was a greater determinant of severity of burden than the psychiatric diagnosis. Ukpong [13] reported that poor finance, stigma and negative symptoms of schizophrenia were important causes of high burden among relatives of schizophrenic patients.

The Burden associated with caring for depressed patients has not been explored in Nigeria, hence this study aimed at assessing caregiver burden among relatives of depressed patients attending the outpatient unit of the Obafemi Awolowo University Teaching Hospitals Complex (OAUTHC), Ile Ife, Nigeria and to determine sociodemographic and clinical variables associated with caregiver burden severity.

2. Materials and methods

The study was conducted in Ife Hospital Unit of the Obafemi Awolowo University Teaching Hospitals Complex. The hospital is situated in Ile-Ife, Osun state and it provides services to surrounding states such as Oyo, Ondo, Ekiti, Kwara and Edo. The participants for the study were patients with *ICD-10* diagnosis of depressive disorder and their caregivers recruited from the psychiatric outpatient clinic. The psychiatric outpatient clinic holds twice a week with an average of 90–100 patients in attendance on each clinic day. Consecutive patients with depressive episodes that met the following criteria were recruited for the study.

1. Subjects must be aged 18 years and above with *ICD-10* diagnosis of Recurrent depressive disorder (RDD).
2. The patients should have been diagnosed and receiving treatment for at least 6 months.
3. There must be no evidence of obvious damage to the brain or any other part of the nervous system.

The caregivers of patients with depressive disorder had to meet the following inclusion criteria before they were asked to participate in the study:

1. They must be aged 18 years and above and they must have been caring for the patient for at least 6 months.
2. They must be free from major medical or psychiatric conditions that could affect their level of functioning.

3. Study design

A cross-sectional descriptive design was used. A sample size of 100 depressed patients and 100 caregivers were recruited for the study. The study was approved by the Ethical and Research Committee of the OAUTHC, and written informed consent was obtained from the subjects after the aim and objectives of the study had been explained to them. Only caregivers and patients who were able to give informed consent were recruited for the study. Participants were recruited from October 2012 to March 2013.

3.1. Study instruments

3.1.1. A socio-demographic data collection sheet

This was designed to obtain socio-demographic details of respondents. Relevant sections of this socio-demographic schedule were used to obtain information from the both patients with depression and the caregiver. The information includes gender, age, ethnicity, religion, marital status, educational level, income, amount spent on treatment per month, relationship of caregiver to the patient, and level of social support from family members, friends and others. Also, illness related factors such as duration of the illness, age of onset, previous hospital admissions and number of hospital admissions were obtained from the patient, but clarifications were made from relatives and the case file where necessary.

3.1.2. Zarit Burden Interview (ZBI)

Zarit Burden Interview is one of the most widely referenced scales in studies of caregiver burden [14]. This 22 item burden interview assesses general caregiver burden.

Most researchers use the full revised version (22 items) of the ZBI which is the scale that is used in this study. Caregivers were asked to indicate how often they had various thoughts or feelings on a five-point scale ranging from 0 (never) to 4 (nearly always). Score range of 0–20 points indicate little or no burden; 21–40 points, mild to moderate burden; 41–60 points, moderate to severe burden and 61–88 points, severe burden. This instrument was administered to the caregivers of the depressed patients. The test–retest reliability and face validity of ZBI has been established in Nigeria [15], and it has been used in studies in Nigeria [15,16]. The ZBI has been translated to Yoruba, the most common language in Western Part of Nigeria using the back translation method, this translated version was used when appropriate [17].

3.1.3. Zung Self Rating Depression Scale

The depressed status of the depressed patients was quantified using the Zung's Self Rating Depression Scale (SDS). This is a 20-item self administered questionnaire graded with a four-point Likert's scale (never, occasionally, sometimes, mostly) for each question. It has 10 positively worded and 10 negatively worded questions each scored on a scale of 1 through 4. The sum of scores (raw scores) for each respondent was converted to a 100 point scale (SDS Index Score) with a score of less than 50 points classified as normal, 50–59 points classified as mild depression, 60–69 points classified as moderate depression and 70 points and above classified as severe depression. The instrument has a reliability of 0.73, alpha coefficient of 0.82 [18]. It has a sensitivity of 85.7% and a specificity of 71.4%, and its back-translated Yoruba version has been used in Nigeria [19–21].

3.2. General Health Questionnaire-12 (GHQ-12)

The 12-item General Health Questionnaire (GHQ-12) has been extensively used as a short screening instrument, producing results that are comparable to longer versions of the GHQ.

Gureje & Obikoya [22] examined the validity of GHQ-12 against the Composite International Diagnostic Interview (CIDI) and reported a sensitivity of 68% and specificity of 70%. The Yoruba version of the GHQ was derived using the iterative back translation method. Both English and Yoruba versions of the GHQ-12 had been validated in Nigeria [22].

3.3. Data analysis

Data was analyzed using Statistical Package for Social Sciences (SPSS version 16). For ease of analysis, most of the variables were grouped and results were calculated as frequencies (%), and means. Correlations between caregiver burden and caregiver variables as well as illness related variables were studied using Pearson's product moment correlation coefficient.

4. Results

4.1. Sociodemographic characteristics of families of patients with depression

Table 1 shows the sociodemographic characteristics of families of patients with depression. The mean age of the respondents was 46.23 years (S.D. = 8.16), male female ratio was 3:1, average monthly income of caregivers was US $249.81 (39,220.00 Naira), while cost of drugs was on the average US $6.25 monthly. Spouses constituted 57% of care givers.

Table 1
Sociodemographic characteristics of the caregivers

Variables	Caregivers (n = 100)
Mean age (years ± SD)	46.23 ± 8.16
Age group (years)	
25-34	7
35-44	37
45-54	34
>55	22
Sex	
Female	35
Male	65
Marital status	
Single	5
Married	95
Religion	
Christianity	73
Islam	27
Ethnicity	
Yoruba	93
Others (Igbo, Hausa, etc)	7
Educational level	
None	5
Primary	29
Secondary	27
Tertiary	39
Employment status	
Working full time	96
Working part time	4
Average income per month (USD)	245.13 ± 115.78
Level of support	
Other family members	
Fair	14
Good	86
Friends	
None	78
Fair	12
Good	10

Among the depressed patients, the mean age of onset of depression was 37.45 years (S.D. = 12.00), with a mean duration of illness of 52 months (S.D. = 44.03), 28% has had three or more episodes in the past year, while a quarter (25%) has had at least one hospital admission in the last 1 year. Majority (67%) had a depressive episode in the last 10 months. On the Zung Self Rating Scale, 14% of the respondents currently had moderate to severe symptoms, while 21% had mild depressive symptoms. Thirty-five percent of the patients have active symptoms.

On the Zarit Burden Interview, mean score was 41.32 (S.D. = 9.82), 45% reported moderate to severe burden. Test of association between level of burden among caregivers and sociodemographic variables of the caregivers showed that only income ($\chi^2 = 9.44$, $P = .007$) was significantly associated with burden score (Table 2). There was also statistically significant association between mean age of onset of illness ($t = 2.46$, $P = .02$), number of patients hospitalization in the past 12 months ($\chi^2 = 9.82$, $P < .05$) presence of active symptoms ($\chi^2 = 36.1$, $P < .05$) and burden scores (Table 3). Pearson correlation between burden score and illness related variables showed significant positive correlation with the score on Zung depression scale ($r = 0.48$, $P < .01$) and a significant negative correlation with age of onset of illness ($r = -0.26$, $P < .01$) (Table 4). There was also significant correlation between burden score and GHQ scores of care givers ($r = 0.52$, $P < .01$).

5. Discussion

While much has been reported on the burden experienced by caregivers of people with schizophrenia in Nigeria [13–15,23], little attention has been given to burden experienced by caregivers of people with depression in the country in spite of the reported contribution of depression to the burden of disease worldwide [1].

Table 2
Comparison of level of burden by sociodemographic characteristics of caregiver

Socio-demographic characteristics	Mild to moderate burden (</=40)	Moderate to severe burden (>40)		Test of association
	N = 55	N = 45		Test/P value
	n (%)/(sd)	n (%)/(sd)		
Age group (years)				$\chi^2 = 2.794$
<34	4 (57.1)	3 (42.9)	7	$P = .418$
35–44	17 (45.9)	20 (54.1)	37	
45–54	19 (55.9)	15 (44.1)	34	
>55	15 (68.2)	7 (31.8)	22	
Sex				$\chi^2 = 0.899$
Female	17 (48.6)	18 (51.4)	35	$P = .402$
Male	38 (58.5)	27 (41.5)	65	
Marital status				$\chi^2 = 0.000$*
Single	3 (60.0)	2 (40.0)	5	$P = 1.000$
Married	52 (54.7)	43 (45.3)	95	
Religion				$\chi^2 = 0.702$
Christianity	42 (57.5)	31 (42.5)	73	$P = .498$
Islam	13 (48.1)	14 (51.9)	27	
Educational level				$\chi^2 = 1.125$
At least Primary	17 (50.0)	17 (50.0)	34	$P = .568$
Secondary	14 (51.9)	13 (48.1)	27	
Post Secondary	24 (61.5)	15 (38.5)	39	
Employment status				$\chi^2 = 0.000$*
Working full time	53 (55.2)	43 (44.8)	96	$P = 1.000$
Working part time	2 (50.0)	2 (50.0)	4	
Income per month (USD)*				
<100	14 (35.9)	25 (64.1)	39	$\chi^2 = 9.437$
100–300	24 (66.7)	12 (33.3)	36	$P = .007$
>300	17 (68.0)	8 (32.0)	25	

* Yates correction.

This study assessed subjective burden of caring for patients with depression using ZBI, the result showed that 45% of caregivers reported moderate to severe burden, this clearly agree with reports that depression contributes significantly to burden of disease worldwide including Nigeria [1].

Various factors may explain the degree of burden reported in this study. The mean age of the caregivers was 46.23 years (S.D. = 8.16) this is similar to the findings of Abikoye and Sholarin [23], indicating that caregivers are in their most productive age, and with care giving taking much time, this could interfere with efficiency at work causing a reduction in, or loss of productivity with its effect on the finances, of both the caregiver and patient.

Most of the caregivers in this study were men; unlike reports among caregivers of schizophrenic patients [12,13,16] who were mostly women. This is not unexpected bearing in mind that depression is twice more common in females than males [24], most of these were husbands caring for their wives along with other

Table 3
Comparison of patients' clinical variables and caregiver burden

Variable	Mild to moderate burden (</=40)	Moderate to severe burden (>40)	Statistical test
Age at onset	40.05 (13.28)	34.27(9.41)	$t = 2.46$, $P = .02$
Mean duration of illness (months)	57.75 (46.40)	45.15 (40.38)	$t = 1.43$, $P = .15$
Number of episodes			
1–2	42 (76.4%)	30 (66.7%)	$\chi^2 = 1.15$, $P = .28$
>/=3	13 (23.6%)	15 (33.3%)	
Number of hospitalization			
0	48(87.3%)	27 (60.0%)	$\chi^2 = 9.82$, $P = .001$
>/=1	7(12.7%)	18 (40.0%)	
Presence of active symptoms			
Yes	5 (9.1%)	30 (66.7%)	$\chi^2 = 36.1$, $P = .001$
No	50 (90.1%)	15 (33.3%)	

Table 4
Correlations between the ZBI scores of caregivers and illness related variables of the patients

	ZBI
ZBI	1
DOI	−.085
AOI	−.263**
NE	.042
HA	.051
DOS	−.141*
SDS	.483**
GHQ	0.48**

DOI: duration of illness; AOI: Age at onset of illness; NE: Number of episodes of illness; HA: Number of hospital illness; DOS: Duration of symptoms.
* $P < .05$.
** $P < .01$.

responsibilities such as work, care of children and extended family members this may contribute to the high level of burden reported in this study. Inem et al. [25] in their report showed that spouses represented the most important source of social support and accounted for most of the association between social support and health.

The positive attitude towards the patient by spouses suggested by this study can be explored in the efforts at reducing stigma against patients with depression and other mental illnesses. The study also noted that while support from family members for the patient was largely considered good, most respondents reported none or only fair support from friends. It should be noted that the stigma associated with mental illness often prevent sufferers from discussing their condition with others, while friends often distance themselves from those they suspect has a mentally illness [26]. Either way, the mentally ill suffer due to poor support and the burden on caregiver increases. However as reported by Mbathia et al. [27], primary health care workers are often willing to provide support for depressed patients, patients and caregivers can therefore be encouraged to take advantage of this source of support.

An interesting finding in this study is the fact that the average daily income of respondents was US $8.32, which is far above the US $2.0 earned by 84.5% of Nigerians as reported by the World Bank [28]. One explanation for this is that most of the caregivers are employed (96%), thus they earn regular income; also, the study was conducted in a tertiary hospital setting where only those few that can afford to pay the relatively high fees come for care. Thus, those with higher income reported lower levels of burden since most of those who earned less than US $32.00 (5000.00 Naira) monthly reported moderate to severe burden. This further emphasized the important association between level of income and disease burden [13].

In this study, the mean age of onset of depressive illness was 37.45 years; however, the range was from 17 to 75 years suggesting that depression affect people of all ages. This finding is consistent with that of the Global Burden of Disease (GBD) 2010 study which put the average age at onset of depressive disorders as 37.1 years [29]. The GBD 2010 however emphasized that depression is now known to occur in younger age group [1]. The mean age of onset of depression was also significantly associated with burden scores such that caregivers of younger patients reported higher burden. This showed that the younger the patient, the higher the reported burden by care givers.

This study also found a positive correlation between severity of depression and severity of burden experienced by caregivers. Depression is associated with severe impairment in social, marital, and occupational functioning [30]; thus, like other medical and psychiatric conditions, the more severe the illness, the more the burden experienced by the caregiver. The study, also found that the presence of active symptoms and higher number of previous hospitalization were significantly associated with reported caregiver

burden, other studies have reported similar findings [30,31]. This also agrees with reports that at least 50% of those who recover from a first episode of depression have one or more additional episodes in their lifetime, and approximately 80% of those with a history of two episodes will have others subsequently [32].

There is also a significant positive correlation between GHQ score and burden score among caregivers, this is similar to reports from other studies [33,34] indicating that families of mentally ill patients suffer significant stress but seldom seek any form of intervention. Meyler et al. [35] in 2007 reported that reducing the burden experienced by spouses of depressed patients often improve the depressed persons symptoms. Therefore psychiatric rehabilitation may need to shift attention from a client focused approach to a combined patient and caregivers focused approach [36] to improve result.

In conclusion, this study has shown that caregivers of patients with depressive illness on the average had moderately severe burden from their care giving activities which is affected by both patient related and care giver related variables such as the age of onset of the depressive illness, the cost of treatment as well as the duration of caring for the patients. Additional research will be necessary to elucidate further the factors that contribute to the burden of care in patients with depression using larger samples of patient with a broader range of symptom severity. There is also a need for the community to be educated on the nature of depression and also a need for policy makers to make treatment of depression accessible and affordable.

Limitations to this study include the fact that the study was conducted in a single hospital thus generalization to all population should be done with caution, also it is a cross sectional study thus causality cannot be implied. We also note that more detailed information about family set up which could not be obtained due to cultural factors is a limitation to this study. However the strength of the study lies in the use of a standardized instrument to measure caregiver burden.

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