



Original Article

Caregivers of schizophrenic patients in Calabar: Extent and predictors of burden

Chidi John Okafor¹, Thomas Emedoh²

¹Department of Psychiatry, University of Calabar, ²Department of Clinical Services, Federal Neuropsychiatric Hospital, Calabar, Cross River, Nigeria.



***Corresponding author:**

Chidi John Okafor,
Department of Psychiatry,
University of Calabar,
Etta-Agbor Road Calabar,
Calabar, Cross-River, Nigeria.

dr_chidi@yahoo.com

Received : 24 May 2020

Accepted : 10 August 2020

Published : 12 February 2021

DOI

10.25259/CJHS_24_2020

Quick Response Code:



ABSTRACT

Objectives: Caregivers of people with mental disorders usually experience consequences which might generate burden and have an effect on each aspect of their life. This study aimed to assess the extent and associated factors of burden on caregivers of schizophrenic patients seen at the Federal Psychiatric Hospital Calabar, Nigeria.

Material and Methods: A hospital-based cross-sectional study design was used to study 100 consecutive caregivers of patients with schizophrenia seen at the outpatient clinic of the hospital between 15 December 2019 and 21 April 2020. Data were collected from the study participants using socio-demographic questionnaire, Patient Health Questionnaire-9, Brief Psychiatric Rating Scale (BPRS), and Family Burden Interview Schedule. Quantitative data were presented as mean (standard deviation) and categorical data as frequency/percentages. Statistical analysis was performed using independent sample *t*-test. Multivariate analysis was performed to determine the predictors of burden on caregivers. All values of $P < 0.05$ were considered significant.

Results: Ninety percent and 88% of the caregivers, respectively, had some level of objective and subjective burden. The factors associated with objective burden on the caregivers were employment status of the patient, BPRS score, number of suicide attempts, and number of hours per week the caregiver was in contact with the patient. The subjective burden was associated with BPRS score, number of hospitalization, number of relapses, monthly income of the caregiver, and caregiver's level of education. The employment status of the patient significantly predicted objective burden on the caregiver ($P < 0.001$).

Conclusion: This study showed that caregivers of patients with schizophrenia experience high level of burden. The study also identified factors which might guide clinicians to institute intervention programs aimed toward reducing burden on the caregivers of schizophrenic patients.

Keywords: Burden, Caregiver, Schizophrenia, Calabar, Patients

INTRODUCTION

The advent of community-based care for people with psychopathology has seen members of the family become active participants in treatment strategies by providing home care to rehabilitate their ill relatives. Care giving comes with many challenges and also the role of caring affects every aspect of the caregiver's life with this consequence formally called burden of care.^[1]

Burden of care refers to the "totality of the experience of caring for an ill person, including effects on the physical, psychological and socio-economic well-being, as well as the capacity to cope with and adjust to that circumstance."^[2] Burden is further divided into objective and subjective domains. The objective burden refers to the practical problems that result from the

This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-Share Alike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

©2019 Published by Scientific Scholar on behalf of Calabar Journal of Health Sciences

illness such as financial difficulties, disruption of family relationship, constraints in social, and leisure and work activities. Subjective burden, on the other hand, essentially describes the psychological reactions which family members experience in caring for an ill relative for example, feeling of anxiety.^[3]

Psychiatric disorders contribute considerably to the current global burden of disease and about one fourth of the global population will develop a psychiatric disorder at some point during their lives.^[4,5] The burden that family experience as a result of one among its members having a psychiatric disorder has continued to generate much interest among researchers. Schizophrenia is a psychiatric disorder which affects over 21 million people worldwide. Its early onset without considerably reducing the individual's life span makes caring for the patient a long-term task. This caring role exerts a toll on the well-being of the caregivers.

Reports from the literature indicate that several factors influence burden of care in caregivers. Some caregiver factors found to be associated with high level of burden include: Old age, female gender^[6,7] living with patients,^[8] poor social support,^[9] lower level of education,^[10] many hours of contact per day/week with patient, and high-income status.^[11,12] Associated patient factors include: Lower educational status,^[9] unemployed patients,^[13] longer duration of illness, and severe symptoms.^[14,15]

Gulseren *et al.* in a study of caregivers of schizophrenic patients in Turkey found that higher burden score was significantly associated with male patients, feminine caregivers, patient's violent behaviors toward caregivers, and caregivers with lower family support.^[16]

Grandon *et al.* in Chile studied 100 primary caregivers of patients with schizophrenia using the Family Burden Interview Schedule (FBIS). They reported that high level of burden was related to lower patient educational status, higher frequency of relapse, and less social support.^[17] The limitation of their study was that burden was treated as a one-dimensional variable with no assessment of variables that predict the objective and subjective dimensions.

Various findings have also been made by earlier researchers in Nigeria.^[13,18] Ukpong in a study conducted in Osun state found higher level of burden in caregivers who were living within the same household with patients, had lower level of education and/or had psychological distress. The patients factors associated with higher level of burden as reported in that study were lower level of education, unemployed patients, longer period of illness, and high scores in the psychopathologic scales.^[13] Although the author found that living within the same household was associated with burden on the caregivers, he did not assess for the caregivers hours of contact per week with the patients. Abdulkareem *et al.* in

their study in Katsina state reported the rate of burden to be 43% and associated factors to include family size and place of residence.^[18] They did not find any significant association with duration of illness. Both the Osun and Katsina state studies used Zarit Burden Interview (ZBI) to assess for burden on the caregivers. The use of ZBI is limited by the fact that it does not highlight aspects of burden that is specific to our culture, such as the burden of taking the patient to churches or spiritual homes for prayers and also the cost of visits to native healers. Moreover, neither of the studies investigated the other variables which have been found to be considerably related to burden in caregivers, for example, number of relapses/suicide attempts.

Lasebikan *et al.* in Ibadan, Oyo state, used modified version of FBIS to assess for burden in 368 caregivers of patients with schizophrenia. This modified version takes into consideration the socioeconomic and cultural situations that prevail in Nigeria which are different from those of the Western world. They found that 85.3% of caregivers experienced some level of objective burden and 84.2% of them experienced subjective burden. Caregiver factors associated with the higher level of objective burden as reported by the authors were old age, unemployment, higher level of education, and spending fewer hours per week with patients. Longer duration of patients' illness was also associated with high level of burden.^[19] However, the authors did not assess the impact of patient's socio-demographic variables on burden. Another setback of their study was that the factors found to correlate with burden were not subjected to further analysis (regression analysis) thereby limiting the interpretation of their findings.

Considering that the well-being of caregivers usually has an effect on patients' outcome, it is necessary that each of the factors which could be related with burden of care in caregivers of schizophrenic patients be fully understood. Sadly, these factors are still sparsely researched in Nigeria. We hope that findings from this study can contribute data in this regard.

MATERIAL AND METHODS

Study design and location

This was a hospital-based cross-sectional study conducted at the general out-patient clinic of the Federal Psychiatric Hospital Calabar (FPHC). Calabar, the capital of Cross River state is a metropolitan city that comprises two local government areas (LGAs); Calabar Municipal and Calabar south LGAs. The FPHC is located within Calabar south LGA. The FPHC offers a range of mental health services including emergency psychiatric services, outpatients and inpatients care among others. At present, the hospital's outpatient clinic runs every week day (except on Wednesdays and public holidays).

Study participants and sample size

The study was conducted among caregivers of schizophrenic patients seen in the clinic between December 15 2019 and April 21 2020. A minimum sample size of 96 was calculated using the following parameters (i) 50% burden, (ii) 10% margin of error, and (iii) 95% confidence level. The calculated sample size of 96 was rounded off to 100. The inclusion criteria were (i) Consenting Caregivers of schizophrenic patients (diagnosis must have been confirmed by a consultant psychiatrist), (ii) must be 18 years and above and be directly involved in caring for the patients on a daily basis, and (iii) must have been living with the patient for at least 1 year. The exclusion criteria were (i) having another family member (other than the patient) with psychiatric illness or a major medical illness such as diabetes or hypertension and (ii) not being able to read/ understand the questions in the questionnaire.

Data collection

Data collection took place every clinic day between the hours of 10 am and 4 pm. Data were collected using socio-demographic questionnaire (SDQ), Patient Health Questionnaire-9 (PHQ-9), Brief Psychiatric Rating Scale (BPRS), and FBIS. The patients' case notes were reviewed to ensure that their diagnoses of schizophrenia had been confirmed by a consultant psychiatrist.

The SDQ was designed by the researchers and has two parts. The first part was used to obtain information on the characteristics of the patient while the second part was used to obtain information on the characteristics of the caregiver.

The FBIS, originally developed in India, is a semi-structured interview schedule that measures both objective (24 items) and subjective (1 general question) aspects of burden.^[20] The objective burden part comprises six sub-domains and these include; financial burden, effects on routine family activities, effects on family leisure, effects on family interactions, effect on physical health of others, and effect on mental health of others. Each item of the objective burden is rated on a 3-point scale (0 = no burden, 1 = moderate burden, and 2 = severe burden). The total objective burden score is obtained by adding the rating for each of the 24 items and a possible total score range from 0 to 48. A score of 0 represents no burden, 1–24 means moderate burden and 25–48 indicates severe burden. Subjective burden is assessed by asking one general question (“How much would you say you have suffered owing to the patient’s illness”) and the response will be scored as 2 (severely), 1 (little), or 0 (not at all). A modified version of this FBIS was developed in Ibadan, Nigeria. The modifications included aspects of burden that is peculiar to the socio-economic and cultural conditions of Nigeria. This modified version has good psychometric properties with a

reported significant Cronbach alpha of between 0.62–0.82 for each item and an inter-rater reliability in the range of 0.48–0.92.^[21] The present study utilized this modified version of the FBIS.

The PHQ-9 is derived from primary care evaluation of mental disorder (PRIME-MD).^[22] It assesses depressive symptoms as well as measures the severity of symptoms. The instrument consists of nine items each of which can be scored from 0 to 3. The possible total score range from 0 to 27. A score of 10 or higher is indicative of moderate or severe depression.

The BPRS was developed in 1962 and has undergone several modifications.^[9] The instrument measures both psychotic and non-psychotic symptoms in major psychiatric disorders. It consists of 18-items which are scored on a seven point scale, (1 = not present, and 7 = extremely severe). It is clinician administered and the scoring is made on observation of the patient during an interview. The instrument has good reliability in clinical use and has been used in Nigeria.^[10,11]

Ethical consideration

Ethical approval with protocol number FPHC/RP/REC/2019/12 was obtained on the May 18, 2019, from the ethics committee of the FPHC. The participants were duly informed about the purpose of the study after which they signed a consent form indicating their willingness to participate.

Procedure

Every clinic day, the case-notes of consecutive patients were reviewed for clinical information after consultation with the attending psychiatrist was over. Cases with confirmed diagnosis of schizophrenia together with the caregivers who accompanied them to the clinic were identified and, if eligible, were invited to participate in the study. Those that gave their consent were recruited into the study. With the help of the researchers, the patient completed the PHQ-9 and the first part of the SDQ. Thereafter, (s)he was evaluated with the BPRS. The patient was then excused from the consulting room while the caregiver who was present with the patient at the time of recruitment filled the second part of the SDQ and FBIS. The caregiver of unaccompanied patient was contacted on phone with the permission of the patient and was requested to come with the patient during the next clinic visit where (s)he was also requested to participate in the study. This procedure was followed until the required sample size was attained.

Data analysis

Data obtained were keyed in and analyzed using Statistical Package for the Social Sciences (SPSS) version 20.0 (SPSS

Inc., Chicago, IL, USA). The results were summarized using descriptive statistics such as frequency counts, percentages, and mean and standard deviations. The scores on PHQ-9 were categorized into two groups based on the presence or absence of depression. Likewise, the number of suicide attempts was categorized into two using the 90th percentile as the reference point. Each of the other quantitative independent variables such as monthly income, amount spent per month, hours of contact per week, and number of hospitalization, among others was also split into two groups using the median value of the variable as cutoff point. The statistical difference between the means of the burden scores in the groups was determined using student's *t*-test. Regression analyses were performed to determine the predictors of burden. Level of significant was set at $P = 0.05$

RESULTS

The socio-demographic and clinical characteristics of the patients are shown in Table 1.

Table 2 shows the demographic characteristics of the caregivers. As shown in Table 2, their mean age was 51.33 ± 10.77 years. The majority of the caregivers (55%) spent more than 71.9 h/week with the patient with 75.10 ± 42.88 h as mean number of hours of contact with the patient per week.

Ninety percent of the caregivers suffered some level of objective burden. Out of these, 56% had moderate level of burden while 34% had severe level of burden. The mean score for total objective burden was 20.28 ± 10.66 . This is shown in Figure 1.

As illustrated in Figure 2, 62% of the caregivers had moderate level of subjective burden while 26% had severe level. Thus, 88% of the caregivers reported having subjective burden. The mean score for subjective burden was 1.14 ± 0.60

Table 3 shows patient's characteristics which are associated with the total objective/subjective burden. As shown in Table 3, the characteristics that were significantly associated with objective burden scores were employment status of the patients ($P < 0.001$); being a patient who is unemployed is associated with higher total objective burden on the caregivers. Furthermore, BPRS score ($P < 0.001$), PHQ-9 score ($P = 0.029$), and number of suicide attempts by the patient ($P = 0.020$), each had a significant association with objective burden. On the other hand, the characteristics that were associated with subjective burden include employment status of the patients ($P = 0.013$), PHQ-9 score ($P = 0.005$), BPRS scores ($P = 0.001$), number of relapse ($P = 0.013$), and number of hospitalization ($P = 0.002$).

In terms of characteristics of caregiver, there was a significant association between the number of hours of contact with the patient and objective burden ($P = 0.045$). Caregivers who

Table 1: Socio-demographic and clinical characteristics of the patients.

Socio-demographic variables	n=100 (%)
Age group (years)	
20–40	73 (73)
41–60	23 (23)
>60	4 (4)
Mean(SD)	35.66 (10.28)
Gender	
Male	42 (42)
Female	58 (58)
Marital status	
Married	33 (33)
Others	67 (67)
Educational status	
<Tertiary	69 (69)
≥Tertiary	31 (31)
Occupation	
Unemployed	63 (63)
Employed	37 (37)
Clinical variables	Mean (SD)
Duration of illness (years)	9.10 (6.58)
Number of relapses	3.12 (1.84)
Number of suicide attempts	0.31 (0.76)
Number of hospitalization	2.45 (1.87)
PHQ-9 score	5.55 (4.65)
BPRS score	32.15 (11.16)

BPRS: Brief Psychiatric Rating Scale, PHQ-9: Patient health questionnaire-9

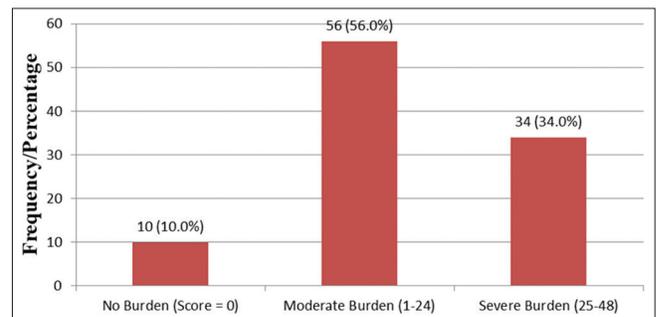


Figure 1: Caregivers level of total objective burden. Mean (SD) score for total objective burden = 20.28 (10.68).

spend more time in contact with the patient had higher level of objective burden. The subjective burden on the caregivers was significantly associated with caregivers educational status ($P = 0.039$) and monthly income ($P = 0.040$). Caregivers with less than tertiary education and those with lower monthly income (<N40,000/month which is equivalent to 104 US dollars/month) were associated with higher level of subjective burden. This is shown in Table 4.

The independent predictors of burden on the caregivers of patients with schizophrenia are shown in Table 5. As shown,

Table 2: The socio-demographic characteristics of the caregivers.

Variables	n=100 (%)
Age group (years)	
20–40	18 (18)
41–60	63 (63)
>60	19 (19)
Mean(SD)	51.33 (10.77)
Gender	
Male	39 (39)
Female	61 (61)
Marital status	
Married	76 (76)
Others	24 (24)
Number of children	
≤3	40 (40)
>3	60 (60)
Mean(SD)	4.23 (2.46)
Educational status	
< Tertiary	77 (77)
≥Tertiary	23 (23)
Occupation	
Unemployed	10 (10)
Employed	90 (90)
Monthly income in Naira (US Dollar)	
<40,000 (104 Dollars)	64 (64)
≥40,000 (104 Dollars)	36 (36)
Amount spent on treatment in Naira per month (US Dollar)	
<3838.90 (10 dollars)	56 (56)
≥3838.90 (10 dollars)	44 (44)
Hours of contact (hours)/week	
<71.9	45 (45)
≥71.9	55 (55)
Mean(SD)	75.10 (42.88)
Type of relationship	
Parents	53 (53)
Spouse	20 (20)
Children	6 (6)
Siblings	17 (17)
Others	4 (4)

BPRS: Brief Psychiatric Rating Scale

the employment status of the patient was the only significant predictor of the total objective burden ($P < 0.001$) while the subjective burden was not predicted by any of the patient's nor caregiver's variables.

DISCUSSION

The present study analyzed the factors which were associated with burden of care in caregivers of patients with schizophrenia.

Over four-fifth (90%) of the caregivers had some level of objective burden and a comparable proportion (88%)

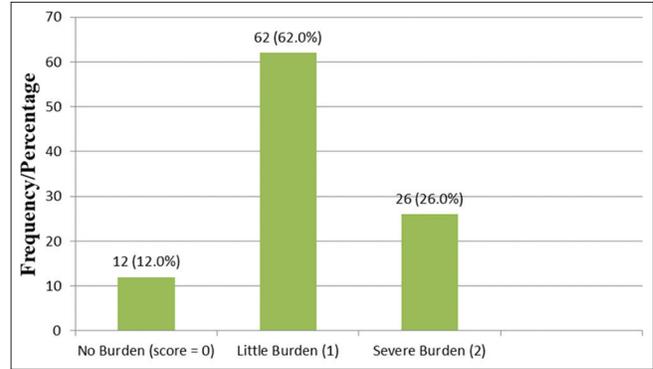


Figure 2: Level of total subjective burden in caregivers. Mean (SD) score for total objective burden = 1.14 (0.60).

experience subjective burden. These rates match the 85.3% and 84.2%, respectively, for objective and subjective burden reported by Lesebikan *et al.* who used the same instrument (modified FBIS) in a similar study conducted in Ibadan, Nigeria.^[19] Far lower rates were reported by some investigators in previous studies conducted in Osun and Katsina states of Nigeria.^[13,18] Both the Osun and Katsina state studies made use of a different burden instrument (ZBI) which did not capture the aspects of caregivers burden that is peculiar to Nigeria. For example, most schizophrenics in Nigeria seek initial care in unorthodox places such as herbal and religious homes before presenting to hospitals. The financial costs involved in taking the patients to unorthodox places were not considered in those studies that used ZBI. Like in the study conducted by Lasebikan *et al.*,^[19] the present study made use of a different instrument (modified FBIS) which unlike the ZBI took into consideration the socio-cultural situations in Nigeria. The higher rates obtained with the modified FBIS suggest that the earlier studies (in which the ZBI was used) underestimated the prevalence of burden in caregivers of schizophrenics patients in Nigeria. In Nepal outside Nigeria, Sing *et al.* reported a prevalence rate of 66.7% for objective burden among the relatives of a sample of forty schizophrenic drawn from a transit home.^[23] The small sample size as well as the inclusion of fairly stable patients who were not living with their families could have contributed to the low rate of burden reported by Sing *et al.* when compared with the results of the present study.

Factors associated with burden in caregivers of patients with schizophrenia

Patient factors

Employment status

Caregivers of unemployed schizophrenics were found to be significantly associated with higher level of both objective and subjective burden. Employment in the patient increases

Table 3: The relationship between patient's socio-demographic/clinical characteristics with subjective/objective burden in caregivers.

Variables	Subjective burden				Objective burden			
	Mean (SD)	t-test	df	P-value	Mean (SD)	t-test	df	P-value
Patients								
Age group								
<40	1.16 (0.56)	1.710	98	0.090	21.51 (10.17)	1.735	98	0.086
≥40	1.10 (0.70)				17.55 (11.36)			
Gender								
Male	1.21 (0.56)	1.048	98	0.297	20.83 (10.42)	0.440	98	0.661
Female	1.09 (0.63)				19.87 (10.90)			
Education								
<Tertiary	1.17 (0.57)	0.837	98	0.404	20.28 (10.28)	0.006	98	0.995
≥Tertiary	1.06 (0.68)				20.29 (11.64)			
Employment status								
Unemployed	1.25 (0.57)	2.531	98	0.013	24.54 (9.21)	6.093	98	<0.001
Employed	0.95 (0.62)				13.03 (8.98)			
PHQ score								
<5	0.98 (0.61)	2.843	98	0.005	18.06 (10.83)	1.852	98	0.029
≥5	1.31 (0.55)				22.69 (10.03)			
Duration of illness								
<10 years	1.07 (0.62)	1.101	98	0.274	18.22 (12.22)	1.765	98	0.081
≥10 years	1.20 (0.59)				21.96 (8.94)			
BPRS								
<31	0.94 (0.58)	3.554	98	0.001	16.65 (9.36)	3.693	98	<0.001
≥31	1.35 (0.56)				24.06 (10.70)			
No of relapse								
<3	0.98 (0.61)	2.541	98	0.013	20.26 (8.60)	0.016	98	0.987
≥3	1.28 (0.56)				20.30 (12.10)			
No of hospitalization								
<3	0.96 (0.60)	3.111	98	0.002	18.40 (10.10)	1.783	98	0.078
≥3	1.32 (0.55)				22.16 (10.97)			
No of suicide attempt								
<3	1.00 (0.00)	0.330	98	0.742	19.93 (10.47)	2.361	98	0.020
≥3	1.14 (0.61)				37.50 (3.54)			

BPRS: Brief Psychiatric Rating Scale, PHQ-9: Patient health questionnaire-9

income capacity of the family and may help to cushion the financial impact of providing care for the patients. Pickett *et al.* reported that family members experienced lesser burdens when the ill patient was employed.^[24] This is also due to the fact that the patient need to have recovered sufficiently to be employable. A study in Western Nigeria also reported similar finding.^[13]

Severity of illness

The finding of positive association between the patients score on BPRS (a scale that measures illness severity) and subjective/objective burden corroborate the findings of some other studies which reported higher caregiver burden in association with more severe illness.^[25-27]

Other than symptoms, certain other illness variables were found to have important associations with burden of care.

Objective burden was significantly associated with number of suicide attempts, while subjective burden was significantly associated with number of hospital admissions/relapse. These suggest that the more severe the patient's illness is the greater the degree of burden experienced by the caregiver of the patient. Previous research has reported that the level of caregiver burden is significantly reduced when there are fewer hospitalizations and improved social functioning of the patient.^[28] On the other hand, burden is significantly increased with increased frequency of relapse/suicide attempts.^[29,30]

Caregiver factors

Hours of contact with patient

Number of hours of contact per week providing care to the ill patient was significantly associated with level of objective

Table 4: The relationship between caregiver characteristics and subjective/objective burden in caregivers.

Caregiver	Subjective burden				Objective burden			
	Mean (SD)	t-test	df	P-value	Mean (SD)	t-test	df	P-value
Age group (years)								
<40	1.08 (0.64)	0.042	98	0.688	20.69 (8.14)	0.149	98	0.882
≥40	1.15 (0.60)				20.22 (11.02)			
Gender								
Male	1.10 (0.64)	0.494	98	0.622	20.41 (9.85)	0.097	98	0.923
Female	1.16 (0.58)				20.20 (11.22)			
Number of children								
≤3	1.10 (0.62)	0.465	98	0.643	19.68 (9.67)	0.465	98	0.643
>3	1.17 (0.59)				20.69 (0.59)			
Educational status								
<Tertiary	1.21 (0.61)	2.091	98	0.039	20.65 (10.82)	0.632	98	0.529
≥Tertiary	0.91 (0.51)				19.04 (10.24)			
Marital status								
Others	1.25 (0.53)	1.025	98	0.308	23.75 (9.05)	1.852	98	0.067
Married	1.10 (0.62)				19.18 (10.94)			
Monthly income in naira (US Dollar)								
<40,000 (104 dollars)	1.23 (0.58)	2.085	98	0.040	21.51 (10.96)	2.582	98	0.117
≥40,000 (104 dollars)	0.97 (0.62)				18.00 (9.82)			
Amount spent per month in naira (US Dollar)								
<3838.90 (10 dollars)	1.14 (0.55)	0.053	98	0.958	20.50 (10.32)	0.232	98	0.817
≥3838.90 (10 dollars)	1.14 (0.67)				20.00 (11.18)			
Hours of contact per week								
<71.9	1.07 (0.54)	1.101	98	0.274	17.98 (8.97)	1.983	98	0.045
≥71.9	1.20 (0.65)				22.16 (11.61)			

Table 5: Regression analysis for the total objective burden and subjective burden on caregivers.

Variable	B	Std. error	Beta	t	P-value	R ²
Total objective burden						0.473
Hours of contact	0.420	1.741	0.020	0.241	0.660	
No. of suicide attempts	9.355	5.981	0.124	1.564	0.121	
BPRS score	2.048	1.860	0.097	1.101	0.274	
PHQ-9 score	3.155	1.721	0.149	1.834	0.070	
Employment status of patient	-8.786	1.738	-0.400	-5.054	<0.001	
Subjective burden						0.307
Employment status of patient	-0.149	0.115	-0.120	-1.297	0.198	
BPRS score	0.174	0.131	0.145	1.324	0.189	
PHQ-9 score	0.153	0.119	0.126	1.289	0.201	
Number of relapse	0.118	0.122	0.098	0.973	0.333	
Number of hospitalization	0.192	0.120	0.160	1.604	0.112	
Caregiver monthly income	-0.018	0.087	-0.022	-0.207	0.837	
Caregiver educational status	-0.105	0.143	-0.074	-0.735	0.464	

BPRS: Brief Psychiatric Rating Scale, PHQ-9: Patient health questionnaire-9

burden. Spending much time with a patient with chronic psychopathology can result in less time at place of work or income earning activities. This could eventually culminate in less income and more financial pressure on the caregivers. In addition, more time spent providing care will lead to less time for leisure activities and disruption of routine family activities. Some previous studies have also reported a positive

correlation between hours of contact with patient and level of perceived burden.^[11,31]

Level of education

Subjective burden was significantly associated with the lower level of education (less than tertiary education) in this

study. Similar findings have been reported in the previous studies.^[13,31] Caregivers with the higher level of education tend to have better understanding of the caregiving role and are more knowledgeable in dealing with stressful events.

Income status

Caregiver's level of monthly income was found to have an indirect association with subjective burden as the later reduces when income level increases. Higher income may lead to less financial difficulties on the caregivers in providing care for the patients. A study reported that caregiver's lower income could be a stressor that influence stress feelings while providing care for the ill patient.^[32]

Predictors of burden

Following a regression analysis to determine the factors that can significantly predict objective/subjective burden, we found the employment status of the patient as the only important predictor of objective burden. The employment status, however, was in a negative sense such that unemployed patients predicted higher level of objective burden in the caregivers. This is understandable given that the earnings from an employed patient can be channeled into his care as to reduce the financial impacts of the illness on the caregiver whereas the lack of income in an unemployed patient will result in all the financial needs of the patients being placed on the caregiver thereby increasing the likelihood of objective burden in the caregiver. None of the patient/caregiver factors was found in this study to be important predictor of subjective burden in caregivers of schizophrenics patients.

Limitation

The cross-sectional nature of the study limits the causal inferences derivable from the data in terms of factors that could cause increased burden in the caregivers.

CONCLUSION

Caregivers of patients with schizophrenia experienced high level of burden in carrying out their caregiving roles. Factors which were significantly associated with higher degree of objective burden in the caregivers include unemployed patient, higher scores in the psychopathology scale (BPRS), frequent suicide attempts, and more number of hours per week, the caregiver was in contact with the patient. The subjective burden borne by caregivers was associated with BPRS scores, number of hospitalization/relapse, and level of education/monthly income of the caregiver. Of all these factors, employment status of the patient was the sole important predictor of objective burden in caregivers.

Awareness of those factors can assist clinicians managing schizophrenic patients to institute strategies aimed toward reducing burden of care on the caregivers and invariably improve the clinical course of the illness for the patients.

Declaration of patient consent

Institutional Review Board (IRB) permission obtained for the study.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. D, Pang A. Care giving experience for Chinese caregivers of persons suffering from severe mental disorders. *Hong Kong J Psychiatry* 2007;17:75-80.
2. Bland R, Darlington Y. The nature and sources of hope: Perspectives of family caregivers of people with serious mental illness. *Perspect Psychiatr Care* 2002;38:61-8.
3. Hoenig J, Hamilton MW. The schizophrenic patient in the community and his effect on the household. *Int J Soc Psychiatry* 1966;12:165-76.
4. World Health Organization. *The World Health Report 2001: Mental Health: New Understanding, New Hope*. Geneva, Switzerland: World Health Organization; 2001.
5. Murray CL, Lopez AD, editors. *The global burden of disease and injury series. A Comprehensive Assessment of Mortality and Disability from Diseases, Injuries and Risk Factors in 1990 and Projected to 2020*. Vol. 1. Cambridge, MA: Harvard University Press; 1996.
6. Reinares M, Vieta E, Colom F, Martinez-Aran, Torrent C, Comes M, *et al*. What really matters to bipolar patients' caregivers: Sources of family burden. *J Affect Disord* 2006;94:157-63.
7. Yusuf AJ, Nuhu FT, Akinbiyi A. Caregiver burden among relatives of patients with schizophrenia in Katsina, Nigeria. *S Afr J Psychiatry* 2009;15:43-7.
8. Rita B, Grit-Urte G, Mathias D, Clemence C, Goran H, Harald B, *et al*. Burden of caregivers of patients with bipolar affective disorder. *Am J Orthopsychiatry* 2011;81:139-48.
9. Perlick DA, Rosenheck RA, Miklowitz DJ, Chessick C, Wolff N, Kaczynski R, *et al*. Prevalence and correlates of burden among caregivers of patients with bipolar disorder enrolled in the systematic treatment enhancement program for bipolar disorder. *Bipolar Disord* 2007;9:262-73.
10. Zahid AM, Ohaeri JU. Relationship of family caregiver burden with quality of care and psychopathology in a sample of Arab subjects with schizophrenia. *BMC Psychiatry* 2010;10:71.
11. Chii JC, Hsing-Yi C, Pin C, Hsiu, HW. Social support and caregiving circumstances as predictors of caregiver burden in Taiwan. *Arch Gerontol Geriatr* 2009;48:419-24.

12. Andren S, Elmstahl S. Relationship between income, subjective health, and caregiver burden in caregivers of people with dementia in-group living care: A cross-sectional community-based study. *Int J Nurs Stud* 2007;44:435-46.
13. Ukpong D. Burden and psychological distress among Nigerian family caregivers of schizophrenic patients: The role of positive and negative symptoms. *Turk J Psychiatry* 2011;22:1-6.
14. Chakrabarti S, Kulhara P, Verma SK. Extent and determinants of burden among families of patients with affective disorders. *Acta Psychiatr Scand* 1992;86:247-52.
15. Shu-Ying H, Chiao-Li KK, Yi-Ching S, For-Wey L, Jen HC. Exploring the burden of the primary family caregivers of schizophrenia patients in Taiwan. *Psychiatry Clin Neurosci* 2008;62:508-14.
16. Gulseren L, Cam B, Karakoc B, Yigit T, Danaci AE, Cubukcuoglu Z, *et al*. The perceived burden of care and its correlates in schizophrenia. *Turk J Psychiatry* 2010;21:202-12.
17. Grandon P, Jenaro C, Lemos S. Primary caregivers of schizophrenia outpatients: Burden and predictor variables. *Psychiatric Res* 2008;158:335-43.
18. Abdulkareem JY, Folorunsho TN, Akinsola A. Caregiver burden among relatives of patients with schizophrenia in Katsina, Nigeria. *S Afr J Psychiatry* 2009;15:43-7.
19. Lasebikan VO, Ayinde OO. Family burden in caregivers of schizophrenia patients: Prevalence and socio-demographic correlates. *Indian J Psychol Med* 2013;35:60-6.
20. Pai S, Kapur RL. The burden on the family of a psychiatric patient: Development of an interview schedule. *Br J Psychiatry* 1981;138:332-4.
21. Lasebikan VO. Validation of Yoruba version of family burden interview Schedule(Y-FBIS) on caregivers of schizophrenia patients. *Int Sch Res Netw Psychiatry* 2010;1:1-8.
22. Kroenke K, Spitzer RL, Williams JB. The PHQ-9: Validity of a brief depression severity measure. *J Gen Intern Med* 2001;16:606.
23. Singh PM, Prajapati A. Burden of schizophrenia on caregivers in Nepal. *Nepal Med Coll J* 2012;15:140-3.
24. Pickett SA, Greenly JR, Greenberg JS. Off-timedness as a contributor to subjective burden for parents of offspring with severe mental illness. *Fam Relat* 1991;44:95-20.
25. Dyck DG, Short R, Vitaliano PP. Predictors of burden and infectious illness in schizophrenia caregivers. *Psychosom Med* 1999;61:411-9.
26. Provencher HL, Muser KT. Positive and negative symptom behavior and caregiver burden in relatives of persons with schizophrenia. *Schizophr Res* 1997;26:71-80.
27. Tucker C, Barker A, Gregoire A. Living with schizophrenia: Caring for a severe mental illness. *Soc Psychiatry Psychiatr Epidemiol* 1998;33:305-9.
28. Glanville DN, Dixon L. Caregiver burden, family treatment approaches and service use in families of patients with schizophrenia. *Isr J Psychiatry Relat Sci* 2005;42:15-22.
29. Grandon P, Jenaro C, Lemos S. Primary caregivers of schizophrenia outpatients: Burden and predictor variables. *Psychiatry Res* 2008;158:335-43.
30. Jones SL, Roth D, Jones PK. Effect of demographic and behavioral variables on burden of caregivers of chronically mentally ill persons. *Psychiatr Serv* 1995;46:141-5.
31. Juvang L, Lambert CE, Lambert VA. Predictors of family caregiver's burden and quality of life when providing care for a family member with schizophrenia in the people's Republic of China. *Nurs Health Sci* 2007;9:192-8.
32. Anren S, Elmstahl S. Relationship between subjective health, caregiver burden in caregivers of people living with dementia in group living care: A cross-sectional community-based study. *Int J Nurs Stud* 2007;44:435-46.

How to cite this article: Okafor CJ, Emedoh T. Caregivers of schizophrenic patients in Calabar: Extent and predictors of burden. *Calabar J Health Sci* 2020;4(2):48-56.