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RESEARCH ARTICLE

BURDEN OF CARE, SOCIAL SUPPORT AND PSYCHO-PATHOLOGICAL SYMPTOMS AMONG CAREGIVERS OF CHILDREN WITH PSYCHOLOGICAL DISORDERS

Lawrence Adeyemi, Deborah, Akinnawo E. Olutope, and Akpunne Bede, C.*

Department of Behavioural Studies, Faculty of Social Sciences, Redeemers' University, Ede, Osun State, Nigeria

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ABSTRACT

The 2016 WHO statistics show that the African region still bore the highest burden of care reporting 587 Disability Adjustable Life Years (DALYs) per 1000 population. The burden of caring for individuals with mental illness is high globally, more so when there is no commensurate social support for the caregivers. There is a crevice of literature from Nigerian studies on the link between burden of care, social support and psychopathological symptoms. This study observed the influence of burden of care and social support on psychopathological symptoms among caregivers of children living with psychological disorders using Yaba Neuropsychiatric hospital Lagos Nigeria. A total of 309 participants *(mean age = 41.2 years)* were purposively selected during clinic appointment days and responded to Zarit Burden Interview (ZBI), Multidimensional Scale of Social Support (MSPSS) and Awaritefe Psychological Index (API Form X). Data was analyzed using descriptive and inferential statistics. The result revealed that Burden of care and social support were significant joint predictors of Insomnia (R^2=.058, p= .000),intellect disorder (R^2=.020, p= . 048), heat disorder (R^2=.028, p= . 017), mood disorder (R^2=.148, p= . 000), head region disorder (R^2=.103, p= .000), general somatic disorder (R^2=.051, p= . 000) and general psychopathology (R^2=.115, p= . 000). Burden of care and social support had significant independent predictions on insomnia, mood disorder, general somatic disorder and general psychopathology while only burden of care significantly predicted heat disorder, and head region disorder among the caregivers.

INTRODUCTION

According to World Health Organization (WHO) Global Burden of Disease (2001), 33% of the Years Lived With Disability (YLD) are due to neuropsychiatric disorders, and a further 2.1% to intentional injuries. Unipolar depressive disorders alone lead to 12.15% of years lived with disability, and rank as the third leading contributor to the global burden of diseases. Four of the six leading causes of years lived with disability are due to neuropsychiatric disorders (depression, alcohol-use disorders, schizophrenia and bipolar disorder). On the differences between psychological health and physical health of caregivers and non-caregivers, Pinquart, and Sorensen (2003), reported that out of the 280 caregivers that participated in the study, 215 reported higher levels of decreased health status than non-caregivers. They also describe feeling frustrated, angry, drained, guilty or helpless as a result of providing care. Some 16% of caregivers feel emotionally strained and 26% say taking care of the care recipient is hard on them emotionally and some caregivers feel frustrated with the lack of progress made with the care recipient.

***Corresponding author:* Akpunne Bede, C.,**
Department of Behavioural Studies, Faculty of Social Sciences, Redeemers' University, Ede, Osun State, Nigeria.

Negative outcomes of caregiving may include social isolation; disruption of leisure/employment time; depression and anxiety; physical symptoms/illnesses; and emotional instabilities. WHO (2001) reported that mental health problems have major impacts on disability, mortality and health care systems have never been in doubt. In similar fashion, Brown and Birstwistle, (2008) found that care giving stress directly affects the health of caregivers. Chronic illness of a family member is an objective stressor that results into strain for the caregiver or relative because of the difficult tasks of care of patient and this is likely to affect both physical and mental health of the caregiver, which depends upon the characteristics of the patient, the relative, their relationship and their environment. The WHO (2011) also reported that the prevalence of mentally ill patients who acquired at least one psychological health problem ranged from 3.5% to 12%. Caregiver burden is much more severe in high-risk populations, such as caregivers of psychiatric patients admitted to (Intensive Care Unit) ICUs (WHO 2011). Martens and Addington (2001) noted that family members were significantly distressed by the fact of having one of their members suffering from schizophrenia. Ivarsson, Sidenvall and Carlsson (2004) agreed that burden on a family caregiver is complex and includes many areas, such as daily life, preoccupations, and social pressure. Gutiérrez, Caqueo-Urízar and Kavanagh (2005) in a Chilean study and Ohaeri, (2001) in a Nigerian study showed high levels of burden on schizophrenia patients' caregivers.

Goncalves-Pereira, Xavier, van Wijngaarden, Papoila, Schene, and Caldas-de-Almeida, (2013), suggested that stress and burden of schizophrenic patient family caregivers are directly associated to positive symptoms of the patients. These visible symptoms generate feelings of discrimination from their social networks in caregivers (Hanzawa, Bae, Bae, Chae, Tanaka & Nakane, 2013; Knock, Kline, Schiffman, Maynard & Reeves, 2011). Negative symptoms, like impaired functioning, impaired working memory and executive functioning, can increase burden levels (Hjarthag, Helldin, Karilampi, &Norlander, 2010). In a study with Taiwanese populations, Huang, Hung, Sun, Linandand Chen (2009), reported high levels of burden associated with helping the patient, lack of professional support and family conflicts. Similarly, schizophrenia and bipolar affective disorder are chronic psychiatric illness that requires long term care. McCann, Lubman, and Clark, (2011) revealed that patient's restlessness and excitement symptoms are main preoccupations reported by caregivers. Additionally, Jagannathan, Thirthalli, Hamza, Hariprasad, Nagendra and Gangadhar, (2012) found that managing patients' behavior and social-vocational problems, added to their own health issues and education about schizophrenia; were reported as common preoccupations by caregivers. Park, (2013) observeda high prevalence of severe anxiety and depression in family caregivers. In a nationwide survey in Korea on suicidal ideation and suicide attempts in anxious or depressed family caregiver's of psychiatric patients, Boyoung, (2013), found a total of 17.7% family caregivers reported suicidal ideation, and 2.8% had attempted suicide during the previous year.

Social support and psychopathological symptoms: Social support has been shown to have some level of influence on health-related behaviors. Koenig and Larson (2001) found a link between social support and depression, and concluded that a generally positive link exists between social support and mental health. Research has suggested that social support is related to increased psychological health perception (Taylor, Peplau & Sears, 2015). A study by Lahuerta, Borrel, Rodriguez-sanz, Perez and Nebot (2004), on the influence of social network on the mental health in the elderly found that 31.2% of the caregivers who took part in the study had mental disorder. Research finding showed that individual in supportive social relationships were happier and healthier and lived longer than those who were socially isolated (Harvey & Alexander 2013; Kantar 2016).In a related study low social support was reported as being an important variance in subjective wellbeing (Çelikel-Çam, & Erkorkmaz, 2008) and increased the probability of psychopathology (Rausmussen, Wrosh-Scheier, & Carver, 2006) and related to more frequent emotional problems (Yelsma & Yelsma, 2008). Also relatives of schizophrenic patients perceived higher levels of burden when they experienced low levels of social support (Goncalves-Pereira et al., 2013). High levels of social support have equally been found to be associated with better well-being (Gutiérrez-Maldonado et al., 2005). It is likely that, as a result of caregiving tasks, primary caregivers stay away from their social networks making burden of care to significantly relate to limited social networks (Grandón, Jenaro, &Lemos, 2008). Stinson, Logel, Zanna, Holmes, Cameron & Wood (2012), established that social support has been shown to have influence on interpersonal relationships because individuals' feelings of self-worth have a bearing on both their beliefs and social behaviors among geriatric caregivers. Thus low social support may damage interpersonal relationships making caregiver feel socially isolated with negative perception of their social relationships. Stinson et al., (2012) affirmed that by implication, a lack of positive social relationships leads to negative psychological states such as anxiety or depression, and that only support that is perceived as adequate would influence the appraisal process and function as a stress buffer. Support from family and friends have been found to reduce the impact of psychological problems among caregivers (Calvete & Connor-Smith, 2006). Studies show that social support could help caregivers to cope with everyday life stressor and lighten the burden of workload and reduce vulnerability to depression, stress and anxiety, act as a protective factor that could decrease psychological problems among caregivers (Dollete, Steese, Phillips& Matthews, 2004) provides motivational influence on caregivers' performance (Wentzel,2014)and is significantly negatively correlated with psychological health symptoms (Vyavaharkar, Moneyham, Corwin, Saunders, Annang, & Tavakoli 2016). Though studies on the link between burden of care, social support and psychological health is available in literature, there is a crevice of knowledge with particular reference to caregiver of children with psychological disorders in Nigeria. Hence the focus of this study is to observe the extent to which Perceived Burden of care and Social support jointly predicts psychological health of caregivers of children living with psychological disorders.

Research Question: To what extent will Perceived Burden of care and Social support jointly and independently predict psychological health of caregivers of children living with psychological disorders?

MATERIALS AND METHODS

Participants: A cross sectional research survey design was employed in the study. Participants for the study were selected from the child and adolescent mental health service center on their clinic days. The patients were identified through appointment registers with the assistance of the records personnel. A sample of 309 caregivers of children with psychological disorders using Federal neuropsychiatric hospital Yaba were purposively selected for this study.

Measures: A battery of three standardized psychological assessment instrument were adopted and used for this study, they are: Zarit Burden Interview (ZBI) (Zarit, Reever& Bach-peterson 1980). This scalehas 12 items on levels of burden of care, it comes in 1-4 likert scale format with 0- never, 1=rarely, 2=sometimes, 3= quite often, 4=nearly always. ZBI has been used on Nigerian samples (Akpan-Idiok & Anarodo 2014). In our pilot study, it has internal consistency reliability Cronbach's α coefficient of .92, a Guttman Split half coefficient of .490, and a Spearman brown coefficient of .535.ZBI returned a significant positive correlation with Burden scale for family care (r= .409 p= 0.000), confirming an acceptable concurrent validity coefficient. Multidimensional Scale of Social Support (MSPSS) (Zimet, Dahlem, Zimet& Farley1988) is a 12-item scale designed to assess individual level of social support. The response format is also 1-5 point likert-scale ranging from strongly agree-strongly disagree, where, strongly agree=5, agree=4, undecided=3, disagree=2, strongly disagree=1. The internal consistency of the scale was good, with a Cronbach's alpha of 0.91. After a four week retest for reliability exercise, the intra-class correlation coefficient (ICC) was found to be 0.84. From a pilot study Cronbach's α coefficient of .904, Guttman Split half coefficient of .852, and

Spearman brown coefficient of .857 as well as a validity coefficient of r= .921 p = 0.000 was observed on Nigerian samples. Awaritefe Psychological Index (API Form X) developed by Awaritefe (1982) to measure levels of manifested psychopathological symptoms. It consists of 76 items with seven sub-scales, including 2 lie scales scored on a 3 point likert scale of Yes =2, No =0 and ? =1. API Form X has acceptable reliability coefficient (Cronbach Alpha) of .87, retest reliability coefficient of .86 for males and .80 for females at 21 day interval (Awaritefe 1982), as well as a split-half reliability coefficient of .85. The sub-scales reported Guttman split half reliability coefficient of insomnia (r=.57), Intellect disorder (r=.58), Heat disorder (r=.91), Mood disorder (r=.87), Head region disorder (r=.79), Alimentary track disorder (r=.78) and General Somatic disorder (r=.86) (Akinnawo & Ofovwe 2012).

Study Setting

The child and adolescent mental health service center of the Federal Neuropsychiatric hospital Yaba Lagos is situated in the densely populated region of Oshodi Lagos State Nigeria. It is the largest Child and Adolescent Mental Health service center in the country Nigeria with a clientele base of almost five thousand registered cases.

Data analysis: Data was analyzed using the statistical package for social sciences (SPSS 23). Descriptive statistics (Simple percentages) and inferential statistics (linear regression) were used for this study.

RESULTS

Table 1 is a summary of the demographic distributions of the participants. Distribution by sex showed that 186 (60.2%) were females while 123 (39.8%) were male. This show that majority of the caregivers that participated in this study were females. The distribution by the age categories of the caregivers show that 7(2.3%) of the participants were 20 – 30 years age category, 145 (46.9%) were within 31 – 40 year categories, 148 (49.9%) were within 41 – 50 year category, 7 (2.3%) were with 51 – 60 years age category while 2 (.6%) were in the 61 years and above age category. Distribution by educational background showed that 86(27.8%) had primary education, 104 (33.7%) had secondary education, 118 (38.2%) had tertiary education. 189 (61.2%) of the participants were married, 99 (32%) were single while 20 (6.5%) were divorced /separated. The distribution of participants according to the diagnosis of children illness showed that 48 (15.5%) were caregiver of children with Learning disabilities, 64 (20.7%) cared for children with seizure, 118 (38.2%) were caregivers of children with autism while 78 (25.2%) cared for children with other forms of psychological illness such as Down syndrome, ADHD, Communication Disorders and Specific Learning Disorders (dyslexia, dyscalculia, and dysgraphia).

Test of Hypotheses

$H0_1$: Perceived burden of care and social support will significantly jointly and independently predict psychopathological symptoms among caregivers of children living with psychological disorder.

The results of multiple regression analysis as summarized in Table 2 showed that perceived burden of care and social support jointly significantly predicted Insomnia (R^2 = .058, F (2, 296) = 8.99, p= .000); intellect disorder (R^2 = .020, F (2, 296) = 3.07, p= .048); and heat disorder (R^2 = .028, F (2, 296) = 4.14, p= .017). The model reveals that 5.8%, 2.0% and 2.8% respectively of variance observed in the dimensions of psychological health (insomnia, intellect disorder and heat disorder) by burden of care and social support among caregivers of children living with psychological disorder attending Yaba psychiatric hospital Lagos Nigeria. The results in Table 2 further revealed that perceived burden of care had strong independent prediction on insomnia (β = .136, t= 2.40, p = .017) and heat disorder (β = .156, t= 2.71, p = .007); while social support independently significantly predicted insomnia (β = -.200, t= -3.53, p =.000) among the participants. The result of multiple regression analysis as presented in Table 3 showed that perceived burden of care and social support jointly and independently predicted mood disorder (R^2 = .148, F (2, 296) = 25.40, p= .000); head region disorder (R^2 = .103, F (2, 296) = 16.91, p= .000); but failed to jointly nor independently predict alimentary track disorder (R^2 = .012, F (2, 296) = 1.78, p= .171). The model reveals that 14.8%, 10.3% and 1.2% respectively of variance observed in the dimensions of psychological health (mood disorder, head region disorder and alimentary track disorder) by burden of care and social support among caregivers of children living with psychological disorder attending Yaba psychiatric hospital Lagos Nigeria. Table 3 further revealed that burden of care had strong independent prediction on mood disorder (β = .182, t= 3.37, p = .001) and head region disorder (β = .306, t= 5.53, p = .000); while social support independently significantly predicted mood disorder (β = -.341, t= -6.32, p =.000) among the participants.

A multiple regression analysis was conducted to determine whether burden of care and social support jointly and significantly predicts general somatic disorder among caregivers of children living with psychological disorder attending Yaba Neuropsychiatric Hospital Lagos Nigeria. The result shown in Table 4 reveals that burden of care and social support jointly and significantly predict the general somatic disorder among the participants [F (2, 294) = 7.86, p = .000]. The analysis in table above suggests that 5.1% variance of general somatic disorder among the participants is explained by the burden of care and social support of caregivers of children living with psychological disorder attending Yaba psychiatric hospital Lagos Nigeria. Further analysis reveal significant beta contributions of burden of care (β = .146, t = 2.57, p= .011), as well as social support (β = -.053, p= .002)on general somatic disorder among the participants.

A multiple regression analysis was conducted to determine whether burden of care and social support jointly and significantly predicts psychological health of the participants. The result shown in Table 5 reveals that burden of care and social support jointly and independently predict the psychological health of the participants [F (2, 294) = 18.90, p = .000]. The analysis in table above suggests that 11.5% variance of psychological health of the participants is explained by the burden of care and social support of caregivers of children living with psychological disorder attending Yaba psychiatric hospital Lagos Nigeria. Further analysis reveal significant beta contributions of burden of care (β = .233, p = .000), as well as social support (β = -.249, p= .000) on psychological health (general psychopathological symptoms) of the caregivers.

Table 1. Demographic Characterizes of Respondents

Variable		Frequency	Percentage
Sex	Female	186	60.2
	Male	123	39.8
	Total	309	100.0
Age of caregivers	20 - 30yrs	7	2.3
	31 -40yrs	145	46.9
	41 - 50yrs	148	47.9
	51-60yrs	7	2.3
	61 and above	2	.6
	Total	309	100.0
Educational qualification	Primary	86	27.8
	Secondary	104	33.7
	Tertiary	118	38.2
	Total	309	100.0
Marital status	Married	189	61.2
	Single	99	32.0
	Divorced/separated	21	6.5
	Total	309	99.7
Diagnosis	Learning disabilities	48	15.5
	Seizure	64	20.7
	Autism	118	38.2
	Other	78	25.2
	Total	309	100.0

Table 2. The Summary of Multiple Regression Analysis Showing the Influence of perceived burden of care and social support on insomnia, intellect disorder and heat disorder

	Insomnia			Intellect disorder			Heat disorder		
Variables	β	t	Sig.	β	t	Sig.	β	t	Sig.
Burden of care	.136	2.40	.017	.100	1.73	.084	.156	2.71	.007
Social Support	-.200	-3.53	.000	.101	1.75	.081	-.058	-1.01	.313
R		240			.143			.166	
R^2		.058			.020			.028	
F		8.99			3.07			4.14	
P		.000			.048			.017	

Table 3. The Summary of Multiple Regression Analysis Showing the Influence of perceived burden of care and social support on mood disorder, head region disorder and alimentary track disorder

	Mood disorder			Head region disorder			Alimentary track disorder		
Variables	β	t	Sig.	β	t	Sig.	β	t	Sig.
Burden of care	.182	3.37	.001	.306	5.53	.000	.110	1.89	.060
Social Support	-.341	-6.32	.000	-.103	-1.87	.063	-.005	-.089	.929
R		.384			.321			.110	
R^2		.148			.103			.012	
F		25.40			16.91			1.78	
p		.000			.000			.171	

Table 4. Multiple regression analysis of joint prediction of perceived burden of care and social support on general somatic disorder of caregivers of children living with psychological disorder

	B	β	t	sig	R	R^2	F	P
(Constant)	4.434		6.512	.000				
Burden of care	.051	.146	2.573	.011	.225	.051	7.861	.000
Social support	-.053	-.173	-3.050	.002				

Table 5. Multiple regression analysis of joint prediction of perceived burden of care and social support on Psychological health (general psychopathological symptoms) of caregivers of children living with psychological disorder

	B	β	t	sig	R	R^2	F	P
(Constant)	29.245		10.875	.000				
Burden of care	.328	.233	4.223	.000	.339	.115	18.904	.000
Social support	-.313	-.249	-4.525	.000				

DISCUSSION

The findings of this study showed that perceived burden of care and social support jointly and significantly predicted insomnia, intellect disorder, heat disorder, mood disorder, head region disorder but failed to significantly predict intellect disorder and alimentary track disorder. This is an indication that caregivers of children living with psychological disorder who have high burden of care with low social support manifest high level psychopathological symptoms, while caregivers with high social support would report low level of insomnia

mood disorder and general somatic disorder. This research finding is in line with Gutiérrez, Caqueo-Urízar and Kavanagh (2005) which reported that high levels of burden on schizophrenia patients' caregivers, and similar findings were discovered in Nigeria (Akpan-Idiok & Anarodo, 2014.). Also the World Health Organization (2001) reported that mental health problems have major impacts on disability, mortality and health care systems. Disability-adjusted life-years, standardized mortality rates and health care costs have all been used to aggregate these impacts (WHO, 2020). Brown and Birstwistle, (2008) found that care giving stress directly affects the health of caregivers. Put together, the chronic illness of a family member is a significant stressor that results into strain for the caregiver or relative because of the difficult tasks of care of patient. This major stressor is likely to affect both physical and mental health of the caregiver depending on the characteristics of the patient, the relative, their relationship and their environment.

In line with our finding, previous research showed that care giving affects sleep patterns (Ustun, Ayuso-Mateos, Chatterji, Mathers & Murray, 2004). Accordingly, Vitiello and Borson, (2001) reported that caregivers have 22.4 hours of sleep every 3 days and non-caregivers reported about 23.7 hours of sleep every 3 days. In a study on Taiwanese populations, Huang, Hung, Sun, Lin and Chen (2009), reported high levels of burden associated with helping patients, lack of professional support and family conflicts. Sharma, Sharma and Pradhan (2018) in an assessment study of burden of providing care for Patients with Schizophrenia and Bipolar Affective Disorder in Kathmandu Medical College found out that Seventy-two percent of caregivers were found to have higher level of stress. Twenty-five percent had depression and 29 percent with anxiety related problems. Sharma et.al (2018) further the stress of caregiving for psychiatric patient to be significantly associated with being in debt, longer duration of illness, lower education level, marital status, subjective feeling of psychological stress and self- acknowledgement of need of professional help. Vyavaharkar, Moneyham, Corwin, Saunders, Annang, and Tavakoli (2016), examined relationships between social support and depression on psychological health in a sample of African American caregivers living in rural areas of the South-eastern United States. Three aspects of social support, including availability of different types of support, sources of support and satisfaction with support were measured using a cross-sectional design. Also perceived availability of sources of support as well as satisfaction with support is significantly negatively correlated with psychological health symptoms (Vyavaharkar et al., 2016)which is in agreement with our finding on burden of care, social support and mood disorder. An Italian study on the Alzheimer's disease caregivers also supports the findings of this present study revealing that 76% caregivers suffered high level of anxiety and 42%manifested high severities of depression (Sansoni, Vellone & Piras 2004). Further study shows that violent behavior in relationships such as pushing someone, throwing things, physical abuse was equally connected with caregiver burden (Calhou, Beckham & Bosworth, 2002). Finally according to McDowell and Serovich, (2011) social support is negatively correlated with psychopathological symptoms. In a nut shell low level of social support especially when there is an associated high level of burden of care can be strongly associated with higher severities of depression, anxiety, attention problems, thought problems, social problems and somatic complaints.

Conclusions and Recommendation

Burden of care and social support are significant joint predictors of Insomnia; heat disorder; mood disorder, head region disorder general somatic disorder and general psychopathology. Burden of care significantly predicted insomnia, heat disorder, mood disorder, head region disorder, general somatic disorder and general psychopathology. Social support independently predicted insomnia, mood disorder, general somatic disorder and general psychopathology. Supportive family therapies should be organized for caregivers of children with psychological problems including members of the families with the aim of buffering their coping mechanisms to ameliorate the stress and distress caused by rendering caregiving services.

Ethical considerations

The research intention and proposed procedures for carrying the research was subjected to scrutiny by the Internal Research Ethic Committee (IREC) of Redeemer's University, Ede, Osun State southwestern Nigeria and approval granted before the study was embarked upon. A letter of approval was equally obtained from the, Research Ethics Committee of the Federal Neuro-psychiatric Hospital Yaba Lagos Nigeria. After successful ethical clearance, instructions on how to fill the questionnaire were given to the respondent and confidential treatment of information was assured as well. Respondents who were available and willing to be part of the study on each clinic day were used for this study. Participants were further informed that they could withdraw at any time from the study without any penalty. However due to the busy schedule of the caregivers during clinic appointments the questionnaire was given to them to be completed at their own convenience and was collected after they have been filled by the respondents.

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