



Psychosocial Determinants of Quality of Life and Mental Health Status of Caregivers of Children with Psychopathologies in Lagos Nigeria

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Authors' contributions

This work was carried out in collaboration among all authors. Authors OEA and BCA designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors BCA and DAL managed the analyses of the study. Authors DAL and AAA managed the literature searches. All authors read and approved the final manuscript.

Article Information

DOI: 10.9734/AJMAH/2020/v18i430199

Editor(s):

(1) Dr. Janvier Gasana, Kuwait University, Kuwait.

Reviewers:

(1) Marcelo Simões Mendes, Sao Francisco University, Brazil.

(2) Nor Firdous Mohamed, Universiti Pendidikan Sultan Idris, Malaysia.

(3) Peter W. Choate, Mount Royal University, Canada.

Complete Peer review History: <http://www.sdiarticle4.com/review-history/56416>

Original Research Article

Received 07 March 2020

Accepted 12 May 2020

Published 03 June 2020

ABSTRACT

This study was carried out to investigate the relationship between Quality of Life (QoL) and psychosocial health status of caregivers of children living with diagnosed psychological disorder. A total of 309 caregivers of children with psychological disorders using a Federal Neuropsychiatric Hospital in Nigeria (*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), The World Health Organization Quality of Life - Brief (WHOQOL-BREF) and General Health Questionnaire (GHQ-12). Data was analyzed using descriptive and inferential statistics. The result revealed that burden of care and social support were significant joint predictors of the Quality Of Life of the participants ($R^2 = .040$, $p = .003$), age of caregiver, duration of marriage of caregiver, child age and duration of care failed to jointly significantly predict the quality of life of caregiver ($R^2 = .013$, $p = .424$), but significantly predicted the psychological

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health of the caregivers ($R^2 = .084$, $p = .000$). Social support had strong beta contribution on QoL while age of caregiver had significant beta contribution on psychological health of the caregivers.

Keywords: Quality of life; psychosocial health; caregivers; child psychopathology.

1. INTRODUCTION

The concept of Quality of Life (QoL) though widely used is seen as vague and difficult to define. According to Keith and Schalock [1] there is a wide ranging discussion on how to define Quality of Life (QoL) resulting in over 100 definitions. Some researchers argue that QoL cannot be defined precisely [2]. The reason for the lack of consensus in definition of QoL stems from the premise that the definitions assigned to the term and the way in which it is used is contingent on the objectives and context of the researcher [3,4,5]. In the same line of thought, Theofilou [6] view Quality of Life as a complex, multifaceted construct that requires multiple approaches from different theoretical angles.

According to Scottish Executive Social Research [3] researchers from different disciplines approached the concept in line with the perspectives of their research interest and objectives. For instance, some researchers approach the concept by developing some social indicators to assess the QoL of the general populations of cities, regions or nations, while others approached QoL by developing some social and psychological indicators to assess the QoL of individuals, or groups of individuals with common characteristics.

Similarly, is the Health-Related Quality of Life (HRQoL) approach which refers particularly to health and also general components of QoL. The concept of HRQoL is perceived and measured differently by different researchers, using a variety of instruments [7,8]. For instance, McDowell and Newell [9] opined that there is little difference between general health and quality of life, and that the two can be measured in similar ways. On the other hand, Mathers and Douglas [10] drew the distinction between observable objective measures of health status, such as in a clinical profile and an individual's perception about the quality of their life.

Scottish Executive Social Research [3] pointed out that even amongst experts, usage of the term is extremely varied. For instance, Armstrong and Caldwell [11] regarded the implication of the

concept in terms of its "rhetorical function", providing the common ground or point of articulation in many of the political debates about social and medical technological progress. On the other hand, Keith and Schalock [1] argued that QoL can be used in three ways: as a "sensitizing notion that provides reference and guidance", as a "social construct", and as an "organizing concept" or "unifying theme". Furthermore, to Keith [2] QoL is "a systematic framework through which to view work aimed toward improving the lives of individuals". Hagerty et al. [12], put it concisely stating that in literature there exists confusion about what QoL is, what contributes to QoL, and what the outcomes of QoL are.

Some researchers investigated the content of QoL attempting to define the attributes of the term, while others still have identified a series of models of the QoL concept, in which attributes are combined within a conceptual or theoretical framework [13]. In line with this, researchers have employed different methods to summarize the defining attributes of QoL. For instance, Meeberg [14] and Haas [15] each used the process of concept analysis developed by Walker and Avant [16] to interrogate definitions drawn from a cross disciplinary review of the concept as used within healthcare institutions. According to Meeberg [14] four defining attributes of QoL are: (a) A feeling of satisfaction with one's life in general, (b) The mental capacity to evaluate one's own life as satisfactory or otherwise, (c). An acceptable state of physical, mental, social and emotional health as determined by the individual referred to and (d). An objective assessment by another that the person's living conditions are adequate and not life-threatening. Haas [15] however posited five attributes of QoL: (a) An evaluation of an individual's current life circumstances; (b) multidimensional; (c) value based and dynamic; (d) comprise subjective and/or objective indicators; and (e) most reliably measured by subjective indicators by persons capable of self-evaluation. In developing its QoL instrument, the World Health Organization (WHO) QOL Group [17] established an international expert review panel that identified three defining characteristics

of QoL:(a) subjective – to do with the individual's perception;(b) multidimensional; and (c) Involves the individual's perceptions of both positive and negative dimensions.

According to Derek, Ron, Geraldine and Michael [18] some standard indicators of QoL include not just wealth and employment, but also the built environment, physical and mental health, education, recreation and leisure time and social belonging.

Despite this difficulty in conceptualizing Quality of Life, the WHOQOL Group [17] defined the concept as premised on individual perceptions of their position in life with regards to their cultural setting, life goals expectations and standards. According to WHOQOL Group [17] QoL is affected by a person's physical health, psychological state, social relationships, level of independence and relationship with their environment. From the definition of WHOQOL Group [17], we can see that QoL is culture specific and is highly related to the goals and standard set by an individual. Also for an individual life to be considered valuable or optimum quality, physical health must be at an optimal level devoid of physical as well as psychological illness or infection and the individual must be able to form healthy relationship with others. If all these parameters are absent, then that individual life may not be considered to be quality.

The WHOQOL Group's [17] definition dwells more on well-being and refers to demonstrable life conditions that are applicable to a general population. This indicates that what the satisfaction entails for an individual is subjective because the term is evaluative and has a large affective and cognitive component. According to Sousa and Lyubomirsky [19], subjective wellbeing of an individual involves both affective components (i.e individuals self-report of positive or negative emotional experience) as well as cognitive (judgmental) components. An individual quality of life can also be seen as the level of personal satisfaction and as opined by Heliwell [20]. Life satisfaction measures help us in understanding the gap between objective living conditions of people and their subjective evaluation of their condition.

In summary QoL is a concept used to describe the well-being of individuals and societies. It observes life satisfaction and indices such as physical health, family education, employment,

wealth, safety, security freedom, religious beliefs and the environment [21].

The impact on relatives of caring for psychiatric patients has been studied to a lesser extent. Martens and Addington [22] noted that family members are significantly distressed by the fact of having one of their members suffering from schizophrenia. Mitchell, Robinson, Wolff and Knowlton [23] demonstrated that there is empirical evidence confirming that caring for a psychiatric patient implies a burden on their families. Additionally, literature showed that managing patients' behavior and social-vocational problems worsen health issues of caregivers [24,25].

The literature on burden of care consistently points out that caring for a person with psychiatric illness can be highly stressful and it involves many challenges such as physical, psychological, social, and financial problems and contributes significantly to excess disease morbidity. Studies also showed an overall decreased quality of life resulting from more emotional and physical health problems, and that many caregivers tend to develop negative health behaviors, such as smoking, not exercising and overeating [24].

According to Krug and Karus [25], insomnia is prevalent in caregivers of psychiatric patients and influenced by their engagement in the caregiving process. Sleep disturbances in the course of rendering care and other long-term exposure to stressful events could also lead to decrease in physiological functioning which often engender physical complications such as fluctuating levels of blood pressure, suppressed immune systems, rapid aging, increased susceptibility to stroke or cardiac arrest and sometimes, even infertility [26].

A meta-analysis study of associations of stressors and uplifts of care giving with caregiver burden and depressive mood done by Sorensen, Pinquart and Duberstein [26] showed that care recipients' behaviour problems had stronger associations with caregiver outcomes than other stressors did.

Park, Kim, Shin, Sanson-Fisher, Shin, Cho J, et al., [27] reported a high prevalence of suicidal ideation and suicide attempts in anxious or depressed family caregiver's of psychiatric patients in Korea.

In conclusion caregivers of patients with psychiatric illness have to make numerous

adjustments to their lives as this affects their social lives and relationships and could lead to feeling lonely, depressed along with other psychopathological symptoms, poor health and lower QoL for both patients and their caregivers [28,29,30,31]. Sequel to the foregoing literatures, the aim of this study is observe the psychosocial determinants of quality of life and mental health status of caregivers of children with psychopathologies in Lagos, Nigeria.

1.1 Research Question

1. To what extent will perceived burden of care and social support significantly jointly predict quality of life of caregivers of children living with a diagnosed psychological disorder?
2. To what degree will age of caregiver duration of marriage, age of child and duration of care jointly predict quality of life of the participants?
3. To what extent will age, duration of marriage, age of child and duration of care jointly predict psychological health of caregivers with psychological health of participants?

1.2 Hypotheses

1. Perceived burden of care and social support will significantly jointly predict quality of life of caregivers of children living with a diagnosed psychological disorder.
2. Age of caregiver, duration of marriage, and duration of ailment of children living with diagnosed psychological disorder will jointly predict quality of life of caregivers.
3. Age, duration of marriage, and duration of ailment of children living with diagnosed psychological disorder will jointly predict psychological health of caregivers with psychological health.

2. MATERIALS AND METHODS

2.1 Research Setting

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

2.2 Participants

A cross sectional research survey design was employed in the study. A sample of 309

caregivers of children with diagnosed psychological disorders using a Federal Neuropsychiatric Hospital in Nigeria were purposively selected for this study. Participants were selected from the child and adolescent mental health service center. The patients were identified through appointment registers with the assistance of the record personnel in the center.

2.3 Measures

A battery of four standardized psychological assessment instrument were adopted and used for this study, they are:

Zarit Burden Interview (ZBI) [32]. This scale has 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 [33,34]. 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) [35] is a 12-item scale designed to assess individual level of social support. The response format is also 1-5-pointlikert-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 [35] 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 by authors on Nigerian samples.

The World Health Organization Quality of Life - Brief (WHOQOL-BREF) [17]. Development of the WHOQOL-BREF was a multi-national project, based on a cross-culturally sensitive concept, thus it is appropriate for use across different nationalities [36]. Responses to the items is based on a 5-point Likert scale, inquiring 'how much', 'how satisfied' or 'how completely' the respondent felt in relation to the domain being investigated. The WHOQOL-BREF has good to excellent psychometric properties of reliability and validity [36].

General Health Questionnaire (GHQ-12) was designed by Goldberg and Williams [37] to measure psychological distress in population surveys and epidemiological studies, and to screen for non-psychotic mental disorders in clinical settings [37]. The items of the GHQ-12 are scored on a 4-point severity/frequency scale (0-3) to indicate the extent to which respondents have experienced each symptom over the past two weeks. Items scores are added to create a total score of distress. GHQ-12 has been used on Nigerian samples with reported psychometric properties within the satisfactory range [38].

2.4 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.

3. RESULTS

Table 1 is a summary of the demographic distributions of the caregivers. 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).

3.1 Test of Hypotheses

Hypothesis 1: Perceived burden of care and social support will significantly jointly predict quality of life of caregivers of children living with psychological disorder.

A multiple regression analysis was conducted to determine whether burden of care and social support jointly and significantly predict quality of life of caregivers of children living with diagnosed psychological disorder attending Child and Adolescent Mental Health Service center. The result shown in Table 2 revealed that burden of care and social support jointly significantly predict the quality of life the participants [$F(2, 288) = 5.94$ $p = .003$]. The analysis in Table 2 suggests that 4.0% variance of quality of life of the participants is explained by the burden of care and social support of the caregivers. Further analysis show that only social support had independent significant beta contribution ($\beta = .20$, $p = .001$). Our finding supports this hypothesis.

Hypothesis 2. Age of caregiver, duration of marriage, and duration of aliment of wards will jointly predict quality of life of the caregivers.

A multiple regression analysis was conducted to determine whether age of caregiver, duration of marriage, child age and duration of care jointly and significantly predicts quality of life of the caregivers of children living with diagnosed psychological disorder. The result shown in Table 3 reveals that age of caregiver, duration of marriage, child age and duration of care failed to jointly significantly predict the quality of life the participants [$F(4, 292) = .97$, $p = .424$]. The analysis in Table 3 suggests that 1.3% variance of quality of life of the participants is explained by age of caregiver, duration of marriage and duration of ailment of children. This result does not support the hypothesis.

Hypothesis 3. Age, duration of marriage, and duration of care will jointly predict psychological health of caregivers of children living with diagnosed psychological disorder.

A multiple regression analysis was conducted to determine whether age of caregiver, duration of marriage, child age and duration of care jointly and significantly predicts psychological health of caregivers of children living with diagnosed psychological disorder. The result shown in Table 4 revealed that age of caregiver, duration

of marriage and duration of ailment of wards of caregivers jointly and significantly predict the quality of life the participants [$F(4, 298) = 6.74, p = .000$]. The analysis in Table 4 suggests that 8.4% variance of psychological health of the participants is explained by age of caregiver, duration of marriage and duration of care of children living with psychological disorder in Lagos Nigeria. Further analysis revealed that only age of care giver has significant beta contributions in the prediction of caregivers' psychological health ($\beta = -.25, p = .000$).

4. DISCUSSION

The first hypothesis was supported by our finding suggesting that caregivers of children living with psychological disorders who themselves have high level of social support reported better QoL. Literatures show that some of the effects of burden of care include social isolation; disruption of leisure/employment time; depression and anxiety; physical symptoms/illnesses; and emotional instabilities [24,25,39]. Furthermore our findings corroborate a study by Sorensen,

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 of Children	Learning disabilities	48	15.5
	Seizure	64	20.7
	Autism	118	38.2
	Other	78	25.2
	Total	309	100.0

Table 2. Regression analysis of perceived Burden of Care and Social Support on Quality of Life among caregivers of children living with diagnosed psychological disorder

	B	β	T	sig	R	R^2	F	P
(Constant)	65.67		24.04	.000	.199	.040	5.94	.003*
Burden of care	.056	.04	.65	.520				
Social support	.231	.20	3.37	.001*				

Table 3. Regression analysis of Age of caregiver, Duration of marriage and Duration of care on Quality of Life of caregivers of children living with diagnosed psychological disorder

	B	B	T	sig	R	R^2	F	P
(Constant)	66.64		14.36	.000				
Age of caregiver	.21	.11	1.71	.089				
Duration Of Marriage	.11	.03	.41	.680	.115	.013	.97	.424
Child Age	-.41	-.08	-.86	.392				
Duration of care	.12	.02	.22	.823				

Table 4. Regression analysis of Age of caregiver, Duration of marriage and Duration of care on Psychological health of caregivers of children living with diagnosed psychological disorder

	B	β	T	sig	R	R²	F	P
(Constant)	47.69		10.31	.000				
Age of caregiver	-.52	-.25	-4.18	.000*				
Duration of Marriage	-.14	-.03	-.49	.624	.290	.084	6.74	.000*
Child Age	-.70	-.13	-1.47	.142				
Duration of care	.83	.14	1.74	.083				

Pinquart and Duberstein [26] on the differences between caregivers and non-caregivers in psychological health and physical health reported higher levels of decreased health status than non-caregivers. Caregivers were also described as feeling frustrated, angry, drained, guilty or helpless as a result of providing care [26].

Age of caregiver, duration of marriage, age of child and duration of care failed to jointly significantly predict the quality of life the participants in our study. Most related literatures were based on the relationship of each of the variable on quality of life of the caregivers. Researchers found that duration of care and caregivers' age inversely correlated with caregivers' QoL [29,40,41]. Moradi, Ebrahimzadeh and Soroush [42] found that the duration of care affected both mental and physical components of caregivers. Also, Hadrys et al. [41] reported a negative correlation between duration of care and caregivers' QoL.

The result of our third hypothesis revealed that age of caregiver, duration of marriage and duration of care jointly and significantly predicted the QoL of the participants. This research finding is in agreement with previous studies [23,28,29, 39]. For instance, Schrimshaw [43] examined whether the source of unsupportive social interactions had direct and interactive relations with depressive symptoms among ethnically diverse caregivers in Budapest. After controlling for numerous demographic characteristics (race/ethnicity, disease stage, household income, education, age and physical symptoms), unsupportive social interactions from family were found to have a main effect predicting more depressive symptoms in caregivers. Similarly, Shimoyama, et al. [40] found lower scores in mental, general health and vitality domains of QoL in spouses of patients with chronic renal failure. In a related study, Blanes, Carmagnani and Ferreira [28] reported lower scores in body pain and vitality domains of QoL among caregivers of patients with spinal cord injuries.

5. CONCLUSION and RECOMMENDATIONS

Based on the findings of this study it can be concluded that burden of care and social support are significant joint predictors of QoL, social support has strong beta contribution on scores on QoL among the participants, age of caregiver, duration of marriage, child age and duration of care are not significant joint determinants of QoL, but are significant determinants of psychological health of the caregiver, Finally age of caregiver is a strong independent determinant of the psychological health of the caregivers in Lagos Nigeria. Authors recommend supportive family therapies for caregivers of children with psychological disorder.

6. LIMITATIONS IN THE STUDY

This was a cross-sectional study; therefore, it was not possible to establish a causal association between independent predictors and caregivers' QoL and mental health.

CONSENT AND ETHICAL APPROVAL

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. 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. As per international standard or university standard written patient consent has been collected and preserved by the author(s).

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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