PSYCHO-SOCIAL PREDICTORS OF QUALITY OF LIFE AMONG CAREGIVERS OF CANCER PATIENTS IN THE RADIOTHERAPY DEPARTMENT, UCH, IBADAN, NIGERIA

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ABSTRACT

The main objective of this research was to identify the psycho-social predictors (Stress, Anxiety, Depression and Social support) of Quality of Life among caregivers of cancer patients at the University College Hospital, Ibadan. Five instruments were adapted and re-validated for cultural suitability and used to assess social support, quality of life, depression, anxiety and caregivers' stress. Data were collected from one hundred and fifty one consecutive caregivers of cancer patients who accompanied the patients to the hospital to receive treatment at the radiotherapy department and who gave informed consent to participate in the study. The respondents' age was ranges between 14 - 72 years with the mean of 35.65 and standard deviation of 14.094. The data collected was analysed using regression analysis and Pearson Product Moment Correlation. A significant negative relationship was found between quality of life and depression in caregivers of cancer patients ($P<0.05$). Regression analysis indicated that depression significantly predicted the caregivers quality of life ($P<0.05$). It was recommended that some attention be given to the psycho-social wellbeing of caregivers of cancer patients to enable them have good quality of life and enhance their care-giving role.

***Key words**: Caregivers, quality of life, anxiety, social support, cancer patients*

Introduction

Cancer diagnosis and treatment constitute major life stressors in developing countries for patients and their formal and informal caregivers (Girgis & Lambert, 2009). Some studies report that cancer diagnosis actually has a greater impact on family members than patients (Resendes & McCorkle, 2006; Couper, Bloch, Love, et al, 2006; Mitschke, 2008; Hagedoorn, Sanderman, Bolks, et al., 2008). Caregiving means care that is provided by family members. For majority of caregivers, the role of a caregiver is based on the assumption of family responsibility, as no one else is to provide care. For some, care-giving can extend for several years (Kim & Schulz, 2008) and be equivalent to a full-time job (Hayman, Langa, Kabeto, *et al*, 2001; Kim & Schulz, 2008). Research has

shown that providing care to a chronically-ill family member increases the risk of compromised health and well-being of caregivers (Bolkhir et al., 2007; Meltzer *et al*., 2001). Caregiving results in chronic stress experience by caregivers and creates physical and psychological strain over extended periods of time as a result of diminished rest, lack of exercise and neglect over personal self-care due to caring for a family member with cancer which may have negative impact on caregivers' health and quality of life (Williams, 2007). Moreover, caregiver's mental health and quality of life are significantly affected by a patient's stage of illness (Schumacher, 2000). The emotional and social burden of care giving contributes to significant mental health morbidity, with elevated rates of anxiety, depression and distress and poor quality of life being reported in caregivers of patients with cancer (Girgis, Johnson, Aoun, and Currow 2006).

Depression is deep sadness that lasts more than two weeks, and affects activities of daily living. It is characterised by feeling of sadness, hopelessness, guilt feeling and inability to sleep and increased appetite. Literature has identified depression about caregivers of chronic illness such as cancer. Anxiety is also the feeling of worry, nervousness, or unease, about cancer. Depression and anxiety have been reported among caregivers of cancer patients.

Psycho-social care is important not only to patients but also to those providing care. An important aspect of psycho-social care that can promote better quality of life is social support. This refers to the formal and informal relationships (Solak and Bayer 2003; Friedman *et al* 2006; Clarke *et al* 2006) that act as buffer for the caregivers whenever they feel stressed. Although many caregivers derive deep satisfaction and feel positively about caring, feelings of sadness, anger, resentment, frustration and a sense of shame may also be experienced by them. Not only are caregivers confronted with the fear of a potentially life threatening illness, they also experienced exhaustion from caregiving which is limitless and may not afford them time to rest. This may result in poor quality of life. Though psychological support for family caregivers of cancer patients is highly desirable, this service is not being routinely delivered (Kruikver, Garssen, Visser, & Kuiper, 2006). This study thus investigates the psycho-social predictors of quality of life among caregivers of cancer patients in the University Teaching Hospital, Ibadan.

Purpose of the Study

The main purpose of this study is to critically examine the psycho-social predictors of quality of life among caregivers of cancer patients. The specific aims of this study however are to:

(a) ascertain the relationship between caregivers' quality of life with age, marital status, educational qualification, experience of stress, anxiety, depression and social support; and

(b) identify the composite and relative psycho-social predictors (social support, stress, anxiety, depression, age, marital status, educational qualification and family type) of quality of life among caregivers of cancer patients.

Methodology

Research design: This study adopted descriptive survey research design to investigate the psycho-social predictors of quality of life among caregivers of cancer patients at the University College Hospital (UCH) Ibadan, Oyo State.

One hundred and fifty One (151) consistent caregivers of cancer patients who

accompanied the patients to the hospital for treatment at the Radiotherapy Department and gave informed consent to participate in the study were randomly selected for the study. A demographic information sheet and five scales were utilised for gathering data in this study. The scales used were revalidated for cultural suitability. They include:

"Quality of Life Enjoyment and Satisfaction Questionnaire" (Q-LES-Q-SF) by Endicott, Nee, Harrison & Blue (1993) was used to assess the caregivers' quality of life. The self-report scale is made up of 15 items measuring the degree of subjective enjoyment of life and satisfaction experienced by caregivers. The respondents were asked to respond to a 5 point scale of: 1- Very poor, 2- Poor, 3- Fair, 4- Good and 5- Very good. The higher the scores is the higher the quality of life. A high test-re-test reliability (interclass correlation coefficient = 0.86) and high internal consistency (Cronbach's α= 0.90) has been reported for this scale (Rapaport, Clary, Fayyad, and Endicott, 2005). The scale showed reliability co-efficient of 0.88 in the current study indicating that it is culturally suitable.

Multidimensional scale of perceived social support, developed by, Zimet, Dahlem, and Farley (1988) was used in assessing the level of social support enjoyed by the caregivers from family, friends and significant others. Each of the 12 items on this scale is rated between 1 (very strongly agree) and 7 (very strong disagree), high scores suggesting lower perceived social support. The psychometric properties of the MSPSS among a Chinese sample in Hong Kong were found to be adequate (Chou, 2000). In this current study, the instrument yielded a Crombach Alpha of 0.87.

Patient Health Question (PHQ- 9) developed by Spitzer, Kroenke and Williams (1999), was used to assess the presence of depressive symptoms in the caregivers. It contains ten items, structured on a 4 point scale of: 0- Not at all, 1- Several days, 2- More than half the days and 3- Nearly everyday. The instruments yield Crombach Alpha 0.65 in the current study.

A brief measure for Assessing Generalised Anxiety disorder GAD-7 by Spitzer, Kroenke, Williams and Lowe (2006) was used for assessing anxiety level. The respondents were asked to respond to a 4 point rating scale ranging from: 1- Not at all sure, 2- Several days, 3- Over half the days and 4- Nearly every day. The author reported reliability co-efficient of 0.55.

Caregivers stress test developed by Stall (2011) was used to assess the stress of caregiving. It contains eleven items with a 5 point response format of: 0- Seldom, 1- Sometimes, 2- Often usually, 3- True and 4- Always true. The scale yielded a Crombach Alpha co-efficient of 0.78 in the current study.

Procedure for Data Collection

Permission was obtained to administer the instruments to the caregivers of cancer patients from the management of Radiotherapy Department. Caregivers of cancer patients were approached in the waiting hall to fill the questionnaires. Some of the caregivers declined the request to fill the questionnaires while others obliged the researchers. The respondents were made to know that filling the questionnaire was voluntary and they have the right to refuse to fill the questionnaire. Before filling the questionnaire, the purpose of the study was explained to the respondents as well as how they were supposed to fill the questionnaires. The instruments were collected from the respondents immediately after completion.

Data Analysis

The data collected for this study were analysed using multiple regression analysis and Pearson product moment correlation analysis at 0.05 level of significance.

Result

The respondents in this study have an age range of 14-42 with a mean of 35.65 and a standard deviation of 14.09. 76 (50.3%) were male, 75 (49.7%) were female. While 71 (47.0%) were married, 64 (42.4%) were single and 9 (5.9%) were either divorced or widowed. 103 (68.2%) were from monogamous families while 43 (28.5%) were from polygamous families. Educationally, 9 (6.0%) had primary education, 29 (19.2%) had secondary education, 45 (29.8%) had OND/NCE while 68 (45.0%) had first degree and beyond. With regards to religion, 90 (59.6%) were Christians, 57 (37.7) were Moslems. In terms of relationship with the patient, 46 (30.55) were siblings, 44 (29.1%) were children, 27 (17.8%) were spouses, 6 (4%) were parents and other relatives were 28 (18.54%)

Research Question 1: What type of relationship exists between caregivers' quality of life with age, marital status, educational qualification, experience of stress, anxiety, depression and social support?

Table 1: Correlations matrix of the relationship between caregivers' quality of life and their expe-rience of stress, anxiety, depression and social support

Variables		1	2	3	4	5	6	7	8
Age (1)	Pearson Correlation	1	.695**	.364**	.010	.214**	-.090	.077	-.066
	Sig. (2-tailed)		.000	.000	.900	.009	.275	.349	.422
Marital Status (2)	Pearson Correlation	.636**	1	.204*	.096	.201*	-.118	.013	-.091
	Sig. (2-tailed)	.000		.015	.252	.016	.163	.882	.284
Educational qualification (3)	Pearson Correlation	.364**	.259**	1	-.054	.020	.034	.021	-.037
	Sig. (2-tailed)	.000	.002		.514	.813	.686	.798	.656
Stress (4)	Pearson Correlation	.010	.098	-.054	1	.439**	.309**	-.079	-.166*
	Sig. (2-tailed)	.900	.244	.514		.000	.000	.335	.043
Anxiety (5)	Pearson Correlation	.214**	.195*	.020	.439**	1	.195*	.045	-.084
	Sig. (2-tailed)	.009	.020	.813	.000		.017	.589	.310
Depression (6)	Pearson Correlation	-.090	-.055	.034	.309**	.195*	1	-.266**	-.294**
	Sig. (2-tailed)	.275	.513	.686	.000	.017		.001	.000
Social support (7)	Pearson Correlation	.077	.087	.021	-.079	.045	-.266**	1	.156
	Sig. (2-tailed)	.349	.302	.798	.335	.589	.001		.058
Quality of Life (8)	Pearson Correlation	-.066	-.168*	-.037	-.166*	-.084	-.294**	.156	1
	Sig. (2-tailed)	.422	.046	.656	.043	.310	.000	.058	
	N	151	151	151	151	151	151	151	151
	Mean	35.65	2.58	3.44	15.01	8.63	5.17	56.42	56.32
	SD	14.094	1.465	1.504	6.237	4.197	4.131	11.423	8.386

**. Correlation is significant at the 0.01 level (2-tailed).

The above table shows that a significant inverse relationship exists between caregivers' quality of life, experience of stress ($p<0.05$), and depression ($p<0.01$). This implies that as caregivers'

quality of life increases, their experience of stress and depression decreases and as stress and depression increase in the caregivers, their quality of life decreases. There is, however, no significant relationship between caregivers quality of life and their age, marital status, educational qualification, experience of anxiety and perceived social support ($p>0.05$).

Research Question 2: What is the composite effect of caregivers' stress, anxiety, depression, perceived social support, age, marital status and educational qualification on the prediction of caregiver's quality of life?

Table 2: Summary of Regression Analysis

R = .343					
R^2 = .118					
Adjusted R^2 = .071					
Std. Error of the Estimate (SEE) = 8.200					
Model	Sum of Squares	Df	Mean Square	F	Sig
Regression	1177.122	7	168.160	2.501	.019
Residual	8807.526	131	67.233		
Total	9984.647	138			

The above table shows that the independent variables jointly significantly predict cancer patients' caregivers' quality of life ($F_{(7,131)} = 2.501$; $p<0.05$). The standard error of the estimate (SEE) is 8.200. Also, it could be observed that R = .343 and R^2 (Adjusted) = 0.71 indicates that 7.1% of the variance in caregivers' quality of life was accounted for by all the independent variables (stress, anxiety, depression, perceived social support, age, marital status and educational qualification).

Research question 3: What is the relative effect of caregivers' stress, anxiety, depression, perceived social support, age, marital status and educational qualification on the prediction of caregivers' quality of life?

Table 3: Relative contribution of each independent variable to the prediction of caregivers' quality of life.

Model	Unstandardised Coefficients		Standardised Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	58.817	4.714		12.478	.000
Age	-.012	.067	-.020	-.174	.862
Marital status	-.803	.635	-.138	-1.266	.208
Educational qualification	.119	.496	.021	.240	.810
Stress	-.132	.128	-.098	-1.031	.304
Anxiety	.169	.196	.083	.862	.390
Depression	-.565	.188	-.277	-3.002	.003
Social support	.051	.065	.068	.782	.436

a. Dependent Variable: Quality of Life Enjoyment and Satisfaction Questionnaire – Short Form

From Table 3 above, only depression has a significant contribution to the prediction of caregivers' quality of life (Beta = .277. t=3.002. df = 128, P<0.05). The other independent variables did not make significant contributions to the prediction of caregivers' quality of life.

Discussion

Family caregivers are significant part of health care delivery system for cancer patients. Hence issues related to their quality of life ought to be regarded as important. In this study, a significant inverse relationship was found between caregivers' quality of life with caregivers' experience of depression and stress. A similar result was reported by Heidari et al., (2012) in their study among breast cancer patients in Iran in which depression was found to have a strong negative correlation with QOL and participants with depression are more likely to have a poorer overall QOL. Among caregivers of children with cystic fibrosis, as depressive and anxious symptoms increased, caregivers' QOL decreased (Driscoll et al., 2009). Depression is an important and common adverse consequence of the burden of caregiving that is associated with a poor quality of life (QOL) and increased risk factor for other disorders (Carter & Chang, 2000; Kurtz *et al*., 2004). Caregiver wives' are reported to have higher levels of depression and poorer health than caregivers' husbands (Haley *et al,* 2003). However, lower levels of depressive symptoms are reported by caregivers if they perceive that doctors listen to them and consider their opinions regarding the patient's illness, needs and medical treatment (Emanuel, Fairclough, Slutsman & Emanuel, 2000).

On the other hand, Fujinami *et al* (2014) report a negative correlation between subjective stress burden and all the quality of life domains in their study among caregivers of patients with non-small cell lung cancer (NSCLC). Caregivers experience multiple, as they share/bear the burden of caring (often exclusively) for their sick loved ones. They are separated from their own support systems, while balancing others' life responsibilities which threaten to overwhelm them (Beattie & Lebel, 2011). Caregivers of patients with cancer report to have modified their lifestyles to accommodate the care recipient's needs including restricting leisure activity and contact with friends and family (Stenberg, Ruland & Miaskowski, 2010). Thus, at a time when caregivers are most in need of the restorative benefits of relaxation, they have the least amount of time and resources available. Further complicating matters, caregivers of cancer patients prioritise the needs of the patient over their own (Williams, 2007), leaving little time for maintaining good nutrition, exercising, and undertaking health evaluations. As a result, caregivers have numerous health related problems, such as sleep disturbances and fatigue, (Palos et al., 2011) which can negatively impact their quality of life.

The findings of the study reveal that while the independent variables of stress, anxiety, depression, perceived social support, age, marital status, educational qualification and family type jointly significantly predict the caregivers' quality of life, only depression was, however, individual significant predictors. Weitzner *et al*, (1999) observe that the presence of increased depressive symptoms is significant in caregivers. It has also been observed that untreated depression in cancer patients may

cause higher rate of depression in their caregivers. This can lead to cognitive and behavioral impairment (McCorkle, 2000). Some caregivers report difficulty expressing their own needs, unless asked specifically away from the hearing of the patients (Payne, Smith & Dean, 1999).

While stressful events are inevitable, it is possible to identify those at increased risk for negative outcomes, assess the degree to which the caregiver's life and health may be negatively affected, and recommend interventions that could attenuate the negative repercussions of the caregiving experience. As a component of preventative care, recognising the challenges and possible effects of caregiving will enhance the plan of care for caregivers that begin with an expanded history and physical on the patient that includes the caregiver's assessment.

The assessment of stress and how it affects the health of family caregivers should be followed by guidance and individualised interventions to attenuate the health consequences and enhance quality of life. The mere act of assessing and listening to the caregivers' needs communicates empathy which may in itself improve outcomes (Emanuel *et al.*, 2000; Rabow, 2004;). Offering the patient and caregiver how to access information regarding patient care, maintenance of family and marital relationships, and the importance of self-care may help caregivers be more prepared and less distressed (Northouse et al., 2010). A growing body of evidence also supports simple stress management practices such as walking, meditating and adopting nutritional changes to those that may help reduce fatigue, improve sleep and reduce the risk of some stress-related illnesses (Sofi *et al.*, 2010; Jacobs *et al.*, 2011). Clinicians should remain alert to stress-related symptoms such as elevated blood pressure and heart rate, as well as delayed wound healing or increased frequency of infections. Providing this level of care will no doubt be rewarding, as improving the experiences of caregivers may in itself enhance caregivers quality of life, improve their ability to provide care and even provide "greater sustenance and meaning" for the physician (Rabow, 2004) in terms of improving patients' health outcomes.

Conclusion and Recommendations

This study examined the psycho-social predictors of quality life of caregivers of cancer patients in the Radiotherapy Department, UCH, Ibadan. While all the independent variables predict quality of life, depression is significantly predicted on quality of life of care givers of cancer patients. The findings of this study enhance the understanding of the perception of the challenges faced by caregivers of cancer patients with regard to the effect of stress, anxiety, depression and social support on the prediction of their quality of life (QOL)

The contributive effects of the independent variables on the prediction of the dependent variable of caregivers (QOL) were examined. Also, the predictive effect of the independent variables on the dependent was well considered. The independent variable has relative contributive effect on the prediction of the dependent variable with depression contributing the most while marital status contributed less.

It was recommended that caregivers should be exposed to the knowledge, skills, income security, job protection and other supports adequate to provide care for cancer patient in order to reduce unnecessary burden on their health and quality of life.

There should be creation of awareness on the psychological burden of cancer through workshop and seminar.

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