Pessimism and Depression as Predictors of Quality of Life among Caregivers of Hospitalised Advanced Cancer Patients in University College Hospital Ibadan

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Abstract

With recent upsurge in the prevalence of cancer in Nigeria, family caregivers have become an indispensable support network in helping patients navigate the devastating challenges associated with this life-threatening illness. Although research has shown that providing care for patients with cancer can negatively impact caregivers' heath and quality of life (QoL, the mechanism by which this occurs is unclear. The purpose of this research was to examine the influence of pessimism and depression on QoL among family caregivers of hospitalised patients with advanced cancer diagnosis. Cross-sectional survey design was adopted, and purposive sampling technique was used to recruit 279 caregivers of hospitalised cancer patients at University College Hospital (UCH), Ibadan. The three hypotheses postulated were tested using multiple linear regression statistic. Findings indicated a significant negative influence of pessimism (β = -.180, t = -2.70; p<.01] and depression [β = -.193, t = -2.90; p<.01] on QoL. Pessimism and depression also jointly predicted QoL [R²= .107, (₂, ₂₇₆) = 16.449; p<.01], accounting for 10.7% of its variance. These results indicated that cancer patients' caregivers who display high pessimism and depression would experience poorer QoL. Healthcare providers and other relevant stakeholders should therefore focus on identifying caregiver's depression and negative thoughts about caregiving role to mitigate the burden and improve their QoL.

Keywords: Caregivers, Depression, Pessimism and Quality of Life,

Introduction

Over the last few decades, cancer has emerged one of the greatest health problems, accounting for more than 16% of global mortality (World Health Organization (WHO), 2012). Within the Sub-Saharan Africa, cancer is gradually becoming a major threat to human existence and wellbeing. For instance, in 2018 alone, there was an estimated 752, 000 new diagnoses (Jemal et al., 2018); and this number is projected to increase by 70% between 2012 to 2030 (Jemal et al., 2019; Mutebi et al., 2020). Invariably, this suggest that the need for care and support for patients diagnosed with cancer would increase, thus placing many demands and burden for families and relatives across the globe. In Nigeria for example, there have been upsurge in cancer prevalence in recent years (Olagundoye, 2020). An estimated 10.7% cancer diagnosis are made yearly, and the number of cancer-related mortality has risen astronomically (Olagundoye, 2020). The rise in prevalence and chronicity of the illness has also increased caregiving demands, creating much disruption in emotional, social, financial, and physical wellbeing that ultimately affect their quality of life.

Quality of life (QoL) has been defined by World Health Organization as "the perception that an individual has about their place in their own existence, in their context of culture and their value system in which they live and on relation to their objectives, their expectations, their norms and life concerns" (WHO, 2009). It is a multidimensional concept that measures the satisfaction of a person with a wide range of aspects, including emotional, physical, financial, and social wellbeing (Lee & Lee, 2020). QoL

encompasses objective and subjective dimensions and can be viewed as the extent to which one's happiness and satisfaction is achieved or perceived to be achieved in certain social, emotional, financial, and psychological aspects, including housing, opportunity to study and healthy social interaction (Gomez et al., 2007).

Due to the life-threatening and the burdens associated with cancer, caregivers play an increasingly key role in managing and supporting cancer patients (Lee & Lee, 2020). Family caregivers include the patient's spouse, adult children, parents, siblings, or relatives (Kent et al., 2016). They provided emotional, physical, financial, and social needs as well as conducting therapeutic roles, such as symptoms management and monitoring, without any remuneration (Kent et al., 2016). They must accept and cope with these demands, which most times result in them neglecting their own needs. Although this support can contribute to improving outcomes in cancer patients, increased demands on caregivers sometimes makes them susceptible to challenges that can diminish their wellbeing and quality of life (McCorkle et al., 2007). According to a study, family caregivers of cancer patients manifested more psychological problems and poorer quality of life than the patients for whom they cared (Mellon et al., 2006). Owing to increased stress and responsibilities, many caregivers cannot afford to take care of themselves and tend to supress negative emotions (Kent et al., 2016). Many of them experience neglect and lack of care from the society, which coupled with high symptom burden for patients can lead to increased psychological distress (Kim et al., 2022), and poor physical health (Lee & Lee, 2020), which can lead to reduced quality of life among family caregivers (Geng, 2018).

In addition, long-term care provision increases role overload and caring burden, resulting in a lower level of QoL among caregivers compared with the general population (Kim et al., 2022). However, while QoL is an important health outcome used to evaluate healthcare quality and survivorship experiences among patients with cancer in many parts of the world, there is paucity of knowledge about QOL-related experiences among caregivers of cancer patients, especially in Nigeria. Most existing studies have focused more on quality of life of the patients, ignoring the fact that only when caregiver's quality of life is improved can they provide effective and efficient care and support to people suffering from this terminal illness. Many documented studies on quality of life and its associated factors have focused on attitudes, life satisfaction, knowledge, gender, self-efficacy, locus of control (Adenuga & Adeyeye, 2017; Olagundoye et al., 2020; Oyeleke & Jason, 2019). Nevertheless, little is known about the role of pessimism and depression in quality of life among cancer patients in Nigeria. Additionally, the unique sociocultural context (e.g., values and healthcare systems) may be vastly different from the western world where QoL has been extensively researched. This has created a knowledge gap which this research intends to fill.

Dispositional pessimism refers to the belief that one's outcome from a social or psychological challenge will be negative rather than positive. It also refers to the inclination to expect negative outcomes in the future (Carver, 2010). Individuals with a pessimistic outlook expect to be unsuccessful in the attainment of their goals, and therefore disengage from their goal directed behaviour. Pessimists tend to be doubtful and hesitant in the face of diverse life challenges. When confronting challenges, pessimists are also most likely to experience negative emotions, such as anxiety, anger, sadness, and despair. Pessimists are more likely to believe that bad outcomes will result from challenging situations. It can be said that a caregiver of a person with cancer who do not have the belief that they can have a positive outcome from their relative's illness or that the condition will negatively impact them would tend to report inferior quality of life. For instance, Schofield, Ball and Smith (2004) investigated on the relationship between pessimism and quality of life in survivors of head and neck and thyroid cancers. They concluded that optimism was associated with a higher quality of life in survivors of thyroid cancer compared with survivors of head and neck cancer while pessimism was a negative predictor. Individuals high in pessimism are likely to experience depression, which could tend to lower quality of life (Li &Yuan, 2011).

Another crucial factor that may impact quality of life among caregivers of cancer patients, but which has not been professionally researched in Nigerian context, is depression. Research has shown that family caregivers of cancer patients commonly experience depression (Lee & Lee, 2020). According

to a meta-analysis of 30 studies, the rate of depression among caregivers of cancer patients was 42% (Geng et al., 2018), and caregiver depression was sometimes more severe than that in patients (Li et al., 2017). Considered a terminal illness, a diagnosis of cancer in a family itself is a major cause of caregiver depression, and it has been shown that caregivers' age, sex, employment status, education level, relationship with the patient, and caring burden are all associated with poor QoL (Geng et al., 2017). In addition, research among Korean family caregivers indicates that the greater the depression, the lower the quality of life (Lee & Lee, 2020). The emotional, financial, and social burden associated with providing care for cancer patients can induce feelings of sadness, helplessness, and hopelessness in many caregivers, affecting physical health and ability to provide care (Geng et al., 2018) and inferior quality of life (Caruso et al., 2017).

In line with the Stress Process Model, which postulates that stressors faced by family caregivers negatively affect their outcomes, this research notes that the primary stressor (caregiving) may induce pessimism and depression, which in turn may affect the quality of life of the caregivers. While depression among caregivers of cancer patients remain high and has been shown to affect their health and those of their patients (Streck et al., 2020), research has focused more on its prevalence and predictors (Trevino et al., 2018). Prior research examining quality of life in caregivers of patients with cancer has rarely considered the role of depression and its interplay with pessimism, especially in Nigeria. This study therefore focused on caregiver's pessimism and depression and examined whether they have independent and joint influences on QoL among caregivers of hospitalized cancer patients. Consequently, the three hypotheses postulated were: (a) Pessimism would significantly and independently predict QoL among caregivers of cancer patients at UCH, Ibadan. (b) Depression would significantly and independently predict QoL among caregivers of cancer patients at UCH, Ibadan. (c) Pessimism and depression would jointly predict QoL among caregivers of cancer patients at UCH, Ibadan.

Method

Participants The participants comprised 279 family caregivers of hospitalised cancer patients at University College Hospital (UCH) Ibadan. Their age is from 21 to 56, with a mean age of 37.8 and a standard deviation of 6.05. Demographically, 96 (34.4%) were males while 183 (65.6%) were females. A total of 143 (51.3%) were Christians, 75 (26.9%) were Muslims, while 61 (21.9%) were from other religious affiliations. On the basis of educational qualification, 117 (41.9%) had primary education, 139 (49.8%) had NCE/ND, 20 (7.2%) had Degree/HND while 3 (1.1%) had M.Sc./Ph.D. qualifications. Out of the total number of 279, 113 (40.5%) were Yoruba, 67 (24.0%) were Hausa, 46 (16.5%) were Igbo while 53 (16.5%) were from other ethnic groups.

This number of participants was obtained using Taro Yamane formula for sample size determination. According to UCH Radiotherapy Statistics, there were 630 cancer caregivers in the hospital, 250 of whom were from surgical out-patient's clinic while 380 were obtained from radiation oncology unit. Thus, using the Taro Yamane formula for sample size determination, the sample is calculated as shown below.

$$n = \frac{630}{1 + 630(0.05)^2}$$
$$n = \frac{630}{1 + 1.575}$$
$$n = \frac{630}{2.575}$$
$$n = 244.66$$
$$n = 245$$

Adjusting the sample size for 10% non-response

$$n_f = \frac{n}{1 - f}$$

Were,

n_f = adjusted sample size due to attrition, f = non − response rate 10%

$$n_f = \frac{245}{1 - 10\%}$$
$$n_f = \frac{245}{0.9}$$
$$n_f = 272$$

In order to increase the precision of this study, a total of 300 participants were recruited but only 279 administered questionnaires were returned with usable data.

Measures

Demographic information. Demographic information assessed included caregiver's gender, religion, ethnicity, and educational qualification.

Pessimism. Pessimism was assessed using 12-item defensive pessimism scale (Lena, 2009). This is a standardised measure of pessimism with acceptable psychometric properties. Participants rated on a 5-point scale ranging from 1= strongly disagree to 5=strongly agree relating their feelings about the care and how they feel it might impact their quality of life. The scale was high reliability, with Cronbach's alpha of 78 for the 12-itemcomposite scale, .79 for the 11-item composite scale, .79 for the 6-item negative expectation subscale, and .73 for the 5-item reflectivity subscale (Lena, 2009).

Depression. Caregiver's depression was assessed using Patient Health Questionnaire (Kroenke, Spitzer & Williams, 2001). This is a 9-item multipurpose instrument for screening, diagnosing, monitoring, and measuring the severity of depression. Caregivers rated their experiences on a 4-point Likert response format 0= not at all to 3= every day, on how they have been bothered in the past two weeks. Higher scores indicate higher depression. PHQ has been widely used and reported to have acceptable psychometric properties (Kroenke et al. 2001). In the present research, reliability coefficient from the pilot study result was 0.79, making it suitable for assessing depression among caregivers of cancer patients in Nigeria.

Quality of Life. We assessed quality of life using a self-report 15-item Quality of Life Scale (Carol & Kathryn, 2003). The scale which was originally created by American psychologist John Flanagan in the1970's, has been adapted for use in chronic illness groups (Quan ir et al. 2022). Participants rated on a 5-point scale and the total scores range from 15 to 112, with higher scores representing better quality of life. In this study, Cronbach's was 0.78.

Procedure

Ethical approval for the research was obtained from UCH Ethics Review Committee in 2017 before the data were collected. Upon this approval, informed consent from the caregivers was obtained and the purpose of the research was clearly explained to them. They were also assured of their privacy and right to withdraw from the study at any point they became uncomfortable with the research. The researchers personally administered the instrument to the caregivers at the surgical and oncology units of UCH Ibadan, between April and November 2018. In all, 300 questionnaires were administered but only 279 returned with usable data. Inclusion criteria were that the participants must have spent at least six months with the patients and were adult family members aged 20 and above. The exclusion criteria was that caregivers with known psychiatric problems were excluded from the study. The completed questionnaires from the participants were coded, screened, and analysed using Statistical Package for Social Sciences (SPSS-Version-20).

Design and Statistic This survey study used cross-sectional design. Adopting cross-sectional design provided opportunity for the study to meet its objectives, which were to examine how pessimism and depression among caregivers affect their perceived QoL over a period of time. Also, the study used multiple linear regression statistic to test the predictor variables (pessimism and depression) on the criterion variable (QoL).

Results

TABLE 1. MULTIPLE REGRESSION ANALYSIS SHOWING INDEPENDENT AND JOINT INFLUENCE OF PESSIMISM AND DEPRESSION ON THE QUALITY OF LIFE AMONG CAREGIVERS OF HOSPITALISED CANCER PATIENTS IN IBADAN.

DV	Predictor(s)	R	R^2	F	df	β	T	p
Quality of life	Constant	.326	.107	16.449**	2, 276		12.11	<.05
	Pessimism					-.180	-2.70	<.01
	Depression					-.193	-2.90	<.01

** p<.01; *p<.05

Results presented in Table 1 reflects the three hypotheses that were formulated and tested in the study. From the results, pessimism emerged as a significant negative predictor of quality of life among caregivers of hospitalized cancer patients in Ibadan [β = -.180, t = -2.70; p<.01], accounting for 18% of its total variance. The negative beta weight for pessimism [β = -.180] further indicates that an increased display of this by the caregivers would significantly diminish their quality of life, and based on the result, hypothesis one was upheld.

Results as presented in Table 1, also found depression as a significant negative predictor of quality of life among caregivers of hospitalized cancer patients in Ibadan [β = -.193, t = -2.90; p<.01], accounting for 19.3% of its total variance. The negative beta weight of the result indicated that depression has significant negative impact on the quality of life of caregivers of cancer patients, explaining aboust 19.3% of its variance. The result implies that when caregivers of cancer patients display higher symptoms of depression, their quality of life becomes poorer. Based on the result, hypothesis two was upheld.

Finally, the result in Table 1 confirmed hypothesis 3, which evaluated for significant joint influence of pessimism and depression on quality of life among caregivers of cancer patients in Ibadan. Result of the multiple regression indicated a significant joint influence of pessimism and depression on caregivers' QoL [R^2= .107, (2, 276) = 16.449; p<.01], with the two variables accounting for 10.7% variance observed in quality of life among caregivers of hospitalized cancer patients in Ibadan. Based on the result, hypothesis three was supported.

Discussion

Today, cancer is increasingly becoming a serious health challenge in Nigeria. This has presented huge challenge not only for the patients, but also for family caregivers who must provide emotional, social, and financial support to these patients. The increasing demands and stress associated with caregiving, however, has been shown to negatively impact health and wellbeing in caregivers (Northouse et al., 2012), but this has not been well established in Nigeria. For this reason, it is imperative to ensure that quality of life of caregivers of cancer patients in Nigeria is given more attention, as existing research have focused more QoL of the patients.

In the present study, we examined the role of pessimism and depression on quality of life among caregivers of hospitalised cancer patients in UCH, Ibadan. Based on identified literature gaps, three hypotheses were formulated and tested using multiple regression analysis. As expected, we found a negative influence of pessimism on quality of life of the caregivers. This result is supported by the findings of Carver (2010) and Li and Yuan (2011), which found that individuals high on pessimism are more likely to report diminished quality of life when faced with traumatic experiences. Cancer is a traumatic experience that places high demands on family caregivers (Mutebi et al., 2020). Such multifaceted demands may overwhelm caregivers and make many to experience negative emotions (Li & Yuan, 2011) that are likely to affect quality of life. In addition, lack of support, access to information and increased symptoms by the patients can increase negative feelings and affect belief about positive future, which could in turn, affect happiness and satisfaction (Northouse et al., 2012).

Similarly, our second hypothesis was confirmed, as multiple regression result indicated that depression has significant negative influence on QoL among caregivers of cancer patients in Ibadan.

This finding is supported by previous studies that showed that higher depression among family caregivers is associated with increased caregiving burden (Lee & Lee, 2020) and inferior quality of life (Geng, et al., 2018). Due to the terminal nature of cancer, family caregivers have been shown to report high depression (Geng et al., 2018), even presenting severe symptoms than the patients themselves (Li et al., 2017). A diagnosis of cancer alone is capable depressing family caregivers (Geng et al., 2017) and impacting negatively on their perceived quality of life. High depression may affect quality of life because the trauma and increasing demands on caregivers can impede happiness, hope, and feelings of satisfaction. Demand for caregiving can also deprive the caregivers of their rights to personal growth, educational development, and health (Lee & Lee, 2020), which are likely to negatively affect their ability to provide care (Geng et al., 2018) and live a quality life (Caruso et al., 2017).

Our study also found that pessimism and depression are joint predictors of quality of life among caregivers of cancer patients receiving treatment in UCH, Ibadan. This implies that pessimism and depression combined to negatively influence the level of quality of life among caregivers of cancer patients, accounting for 10.7% variance in their quality of life. The remaining 89.3% could be explained by other factors not considered in the study. This result is expected because both pessimism and depression are negative psychological constructs that can impede feelings of hope, happiness, and satisfaction. Thus, in an event where caregivers display pessimism and elevated depression as a result of increasing demands, it will be expected that they would present event poorer quality of life. Family caregivers of patients with advanced cancer are more likely to feel pessimistic and depressed about their condition (Kim & Beak, 2022). They are also more likely to lack time and expend resources due to prolonged care, which is likely to affect their financial and emotional stability and wellbeing (Kim & Beak, 2022). This may explain why a display of pessimism and depression has profound negative influence on the quality of life among this category of caregivers.

Overall, the results of this study suggest that identifying the mechanisms affecting the QoL among caregivers of cancer patients can help improve caregiver QoL and highlight the need for interventions to manage caregiver depression, dispositional pessimism, and burden of care. Managing caregiver's burden and depression for example, can have a positive effect on their health and ability to provide care. Despite its impressive findings, the study has some limitations. Firstly, the study did not examine clinical characteristics, such cancer type, information on current treatment, cancer stage and information on treatment were not included in the study. All these variables can potentially impact quality of life (Geng et al., 2018). In addition, the role of anxiety and pain were not considered, and pain is one of the most common symptoms of in cancer patients (Tang et al., 2018) and anxiety can occur in both patients and their spouses, which is known to have an immense impact on patients and their spouses' QoL (Aylaz et al., 2021). Further research is needed to better understand the impact of these variables on the QoL of family caregivers of cancer patients.

Limitation of the Study

Despite the revelations obtained, the application of the results of this study should be done with caution. As such, the research did not consider the multidimensionality of QoL. QoL domain analysis can provide valuable information regarding specific aspects of health and well-being. Thus, we propose a follow-up study to develop practical interventions to improve caregivers' QoL.

Recommendation and Conclusion

In consideration that this study found pessimism and depression as factors having the potentials to negatively affect the QoL of caregivers of cancer patients, we recommend that intervention programmes targeting these factors should be provided for such care givers overtime to assist in cushioning the impact of caregiving, thereby serving as a way to improve their QoL.

In conclusion, the research has established that feelings of pessimism and depression among caregivers of advanced cancer patients is on increase in Nigeria, and this has led to diminished quality of life among caregivers. The results of the study have shown that caregiver's pessimistic views and elevated depression are significant factors that are affecting quality of life among the caregivers.

Although both pessimism and depression are risk factors, caregivers who are depressed may be at greater risk of experiencing inferior quality of life. Therefore, it is necessary to identify caregivers' level of depression and pessimistic views about their condition as a way of improving their QoL. By identifying family caregivers who display elevated level of depression, psychosocial support can be provided for them to help express and overcome negative feelings, which will help improve caregiver's quality of life and improve their care for individuals suffering from this terminal illness.

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