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Socio-Demographic Characteristics Associated with Quality of Life-Scores among Palliative Care Cancer Patients in Kenya

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Abstract

Background: Cancer morbidity and mortality is rising more rapidly in the low and middle income countries, where the infrastructure for diagnosis and care is extremely limited compared to the developed countries. Palliative care aims to mitigate these effects and improve Quality of Life (QoL) of cancer patients by providing appropriate support across life's domains as the disease progresses. However, these services are not readily available in sub-Saharan Africa and even if they are, often they are not optimized and outcomes rarely assessed. The current study evaluated the socio-demographic characteristics and quality of life of palliative care cancer patients at Kisii Teaching and Referral Hospital.

Methods: Through a descriptive cross-sectional design, 120 palliative care cancer patients were assessed for quality of life using MVQOL-I. The association between social demographic characteristic with QoL was analyzed using one-way ANOVA.

Results: The modal age-groups were 45-54 years old (30%) and 25-34 (22.5%) p=<0.001); females comprised 63%; and those with post-primary level education 66% (p=0.030). Total QOL scores were significantly higher among older age-groups, higher education levels, formally employed, married and better monthly income within socio-demographic characteristics. These results indicate that while majority of patients experienced satisfactory QoL, there exist large unmet palliative care needs. There is need to strengthen capacity and competence of palliative care providers to enable them provide comprehensive palliative services.

Keywords: Clinical; Socio-demographic; Dimensions; Quality of life-scores; Palliative care; Cancer

Background Information

Studies have reported that the likely influence of social-demographic factors on quality of life. Quality of life among cancer patients may be influenced by socio-demographic characteristics. Being married, attaining at least a high school education and being employed were associated with higher QoL scores among breast and gynecological cancer patients [1]. Age of cancer patients has been known to vary their perception of body image and physical attractiveness hence their QoL. Patients with less than high school education and were less than 50 years in age had lower overall QoL scores [2,3].

The concept of QoL especially in relation to its dimensions namely physical, psychosocial and spiritual is important in palliative care. Palliative care has become important in cancer care with its goal being to help the patient achieve the highest QoL [4]. In many African countries, many of cancer patients present to hospitals at advanced stages of the disease when cure is not possible which makes palliative care very essential part of cancer care [5]. Evaluating the QoL of cancer patients receiving palliative care will not only inform the planning of care but also serve as an outcome measure of the palliative care services. QoL evaluation can accurately be done through getting the patients' experience with cancer and its management. Few researchers if any have investigated QoL and patient experience on nonphysical aspects of cancer on the Kenyan population. There is scarcity of information on the levels of QoL among cancer patients on palliative care in the country. Given the high existing cases of cancer seen in the palliative care unit, this study aims to evaluate the level of QoL and its associated factors among cancer patients receiving palliative care at Kisii Teaching and Referral Hospital.

Better understanding of these factors and how their relationships between se issues would help improve design and implementation of palliative care across different contexts. On the other hand, progress in the QoL among palliative care cancer patients may be affected by multiple other factors, including clinical stage of disease at enrolment, cancer therapies, cancer types, individual characteristics and range of palliative care services.

Methodology

This study was conducted at Kisii teaching and referral hospital in the palliative care unit, Kisii, Kenya. Using a descriptive cross-sectional research design, 120 palliative care cancer patients were surveyed using MVQOL-I was used to collect information on clinical characteristics and their perceptions about quality of life. The MVQoLI is a 26 item quality of life questionnaire with one global QoL item and five subscales. Consecutive enrolment of eligible consenting cancer patients receiving care at the palliative care unit and consented to participate in the study were interviewed The subscales include symptoms, function, interpersonal, wellbeing and transcendent which covers the physical, social, psychological and spiritual domains respectively.

Data Analysis

Descriptive analysis was performed for social-demographic characteristic by tabulation of frequencies for each class Chi-square tests for independence to determine statistical differences within the sub-scales values. The association between social-demographic characteristic factors with QOL scores was analyzed using one way ANOVA.

Results

They were120 participants were interviewed (female: male=1.7:1; p=<0.001).Of these 45-54 year olds comprised 30% (n=36) which was significantly larger than other age categories (p=0.001). At least 85% were in-patients. More than 66% of the respondents hat attained at least secondary or higher level of education (p=0.030). Those professing Christian faith were significantly more in number than were Muslims. A slight majority earned KES 5,000 or less (59%; n=71; p=<0.001) (Table 1).

Variable / characteristics		**N**	**%**	X^2	**df**	***p*-value**
Age (years)	18-24	11	9.2	20.10	5	**0.001**
	25-34	27	22.5			
	35-44	14	11.7			
	45-54	36	30.0			
	55-64	15	12.5			
	>65	17	14.2			
Gender	Female	76	63.3	126.2	3	**<0.001**
	Male	44	36.7			
Education	None	14	11.7	12.4	5	**0.030**
	Primary-incomplete	13	10.8			
	Primary-complete	13	10.8			
	Secondary-incomplete	22	18.3			
	Secondary-complete	23	19.2			
	Tertiary	35	29.2			
Occupation	Casualworker	14	11.7	8.100	5	0.151
	Formal employment	27	22.5			
	Housewife	10	8.3			
	Other	22	18.3			
	Peasant farmer	30	30.0			
	Self-employed	17	14.2			

Religion	Catholic	35	29.2	139.6674	4	**<0.001**
	Muslim	8	6.7			
	Protestant	77	64.2			
Monthly income (KES)	5,000	71	59.2	47.450	2	**<0.001**
	5,000-9,999	18	15.0			
	>10,000	31	25.8			

Table 1: Study patient socio-demographic characteristics (N=120).

Cervical cancer (16%; n=19) and breast cancer (15%; n=18) among females and prostate cancer among males (10%; n=12) were the most common among ^{3} 25 years, however leukemia was commonest only among <25 years years and below (p=<0.001). At least 31% of the patients were diagnosed 1-3 months after of the onset of symptoms and 24%; (n=29) were diagnosed 4-6 months (p=<0.001) (Table 2).

Variable / Characteristics		**N**	**%**	X^2	**df**	***p*-value**
Cancer Type	Breast	18	15.0	144.00	21	**0.001**
	Cervical	19	15.8			
	Endometric	5	4.2			
	Leukemia	8	6.7			
	Lung	7	5.8			
	Oesophagus	10	8.3			
	Ovarian	7	5.8			
	Prostate	12	10.0			
	Others	21	17.5			
Time since diagnoses	1-3	37	31	21.500	4	**0.001**
	4-6	29	24			
	7-9	19	16			
	12	21	18			
	> 12	14	12			
Type of cancer treatment	Chemotherapy	30	25	34.832	3	**0.001**
	Radiotherapy	17	14			
	Surgery	20	17			
	Combinetherapy	53	44			
Duration of Time from Last Treatment	<1	85	70.8	119.382	3	**0.001**
	1-3	25	20.8			
	4-6	6	5.0			
	7-9	4	3.3			
Palliative Care Services	Other symptom management	16	13.3	28.333	3	**0.001**
	Pain relief	52	43.3			
	Psychosocialcounselling	41	34.2			
	Spiritual care	11	9.2			

Duration of Palliative Care	<1	72	60.0	118.917	4	**0.001**
	1-3	34	28.3			
	4-6	7	5.8			
	7-9	1	0.8			
	12	6	5.0			

Table 2: Study patient clinical characteristics (N=120).

A statistically significant association (P<0.05) was identified between age, level of education, marital status, occupation, monthly income and the mean total QOL scores. Total QOL scores were significantly higher among older age-groups, higher education levels, formally employed, married and better monthly income within socio-demographic dimension. There was no significant association (P>0.05) identified between religion, gender and mean total QOL scores. The mean QOL scores across all sub-scales were associated with wide standard deviations (Table 3).

Variables	**SY** Mean **(SD)**	**F** Mean**(SD)**	**IP** Mean**(SD)**	**WB** Mean **(SD)**	**T** Mean **(SD)**	**Total QOL** Mean (SD)
Age						
18-24	11(14)	9.1(4)	6(.89)	0.18(3)	-2.6(7.6)	18(1.3)
35-44	6.7(15)	6.3(11)	-2.6(11)	-7.3(8.3)	4.3(10)	17(4.2)
45-54	6.6(12)	3.1(14)	9.8(8.3)	-10(12)	0.89(16)	17(4.8)
55-64	7.4(11)	6.2(12)	6.3(12)	-2.9(19)	9.3(14)	18(4.7)
>65 years	13(4.3)	5.5(10)	18(8.9)	12(19)	13(17)	22(3.8)
P value	**0.001**	0.3	0.593	**0.001**	**0.001**	**0.001**
Level of Education						
None	7.1(9.2)	2.6(14)	4.8(9.8)	-12(9.1)	3.2(9)	16(2.7)
Primary-incomplete	11(9.4)	6.8(12)	11(14)	4(7)	9.8(18)	20(5.7)
Primary-complete	17(8.2)	8.1(4)	-1.4(13)	-3.9(3.2)	3.2(2.8)	18(1.5)
Secondary-incomplete	2.5(17)	4.6(12)	2.6(13)	-6.5(14)	5.8(12)	17(4.8)
Secondary-complete	18(4)	7.8(5)	-4.6(5.6)	6.3(7.9)	18.1(13)	20(1.9)
Tertiary	13(12)	9.9(3.7)	14(8.6)	7.7(7.3)	5.2(16)	20(3.5)
P value	**0.002**	**0.003**	0.378	0.12	**0.001**	**0.002**
Occupation						
Housewife	-4.4(14)	12(5.3)	0.55(12)	-7.2(11)	-7.3(15)	17(4.8)
Peasant farmer	3.2(12)	2.6(14)	7.0(13)	-4.3(17)	5.1(13)	17(4.7)
Casualworker	15(1.3)	-3.6(16)	-3.7(9.8)	-8.8(9.8)	2.1(2.3)	16(1.7)
Self employed	18(7.8)	9.1(9.4)	1.9(17)	-7.8(14)	7(7.8)	18(3.7)
Formal employment	14(8.3)	8.6(2.8)	14(8.7)	5.2(16)	15(14)	21(3.2)
Other	18(10)	7.4(2.9)	6.2(0.8)	0.6(3.2)	-5.1(9.8)	19(1.2)
P value	**0.001**	**0.001**	**0.004**	0.089	**0.008**	**0.002**

Marital status						
Single	4.6(12)	9(13)	14(10.1)	7.9(8.0)	8.3(13)	20(3.3)
Married	-5.9(18)	6.1(12)	18(13)	12.1(13)	10(13)	22(4.4)
Widowed	-0.14(17)	8.9(10)	5.1(9.7)	8.1(8.8)	8.1(12)	19(4.6)
Separated	-5.8(12)	-5.6(15)	17(15)	11(4.4)	4.5(7.0)	18(3.3)
P value	0.685	0.07	**0.004**	**0.001**	**0.004**	**0.036**
Monthlyincome						
Lessthan 5,000	8(14)	6.1(9.4)	4.0(13)	-2.6(14)	6(13)	18(4.5)
5,000-9,999	12(8.9)	3.1(16)	9(12)	-12(13)	4.1(8.2)	17(3.6)
10,000 and above	14(7.8)	8.8(2.6)	7.7(16)	14(11)	22(10)	22(2.6)
P value	0.115	0.112	0.273	**0.001**	**0.001**	**0.002**
SY: Symptom; F: Function; IP: Interpersonal; WB: Wellbeing; T: Transcendent; SD: Standard Deviation						

Table 3: Association between socio- demographic factors and QOL scores.

Discussion

Findings from the study established that age, level of education, occupation and monthly income influenced the quality of life of cancer patients in this setting.

Age was associated inversely with physical and psychological domains, as well as the total QOL of cancer patients. Age is known to impact significantly and in diverse ways on the health related QOL of cancer patients more than in the general population [6]. Patients aged 65 years and above had higher physical, psychological and total QOL scores compared to other age groups. Among younger people, improvements in QOL might be driven by the additional domains, including psychosocial aspects such as vocation, hobbies, and acceptance of illness [7]. In Kenya, Ogonchi, et al. [8] has reported that gynecological cancer patient age above 65 years and above had higher physical, spiritual and psychological and total QOL in contrast to finding from a study by Goker, et al. [9] whose findings suggested higher physical and overall QOL scores among younger Turkish cancer patients. This difference indicates potential variations in factor interactions across age transitions, but which were not explored in this study. The literature is lacking in sufficient evidence-based interventions to improve QoL in younger populations with cancer [10]. Further, the tools to adequately measure QoL in this population are also unsatisfactory. The implication of this finding is that interventions to improve QOL among cancer patients should be tailored to individual contexts given the age and cancer type or specific / unique experiences and needs in coping with the disease and treatment effects. Also they should be given social support from family and friends, an aspect which was more pronounced among outpatients. The current study did not find many adolescents (which should be considered a limitation of the current study), but whose unique challenges may influence the trajectories differently.

Levels of education influenced cancer patients on the following dimension; physical, social, psychological, spiritual and total QOL. In this study cancer patients who had completed secondary and tertiary levels of education had higher total QOL scores compared to those with lower levels of education. Education is one of the important factors that help in promoting QoL. More trained patients need less time and energy from doctors than illiterate patients in terms of diagnosis and follow - up care [11]. Higher education provides knowledge, better understanding, and awareness creation, which ultimately improve the overall QoL [12]. Cancer patients with higher education level are more likely able to understand and familiarize themselves with the disease and its possible outcome and therefore, have better emotional as well as physical Health related quality of life [13]. Low levels of education have been associated with decreased awareness of the disease [14]. This often contributes to a large number of the cancer patients being less likely to be screened early for their cancers which makes them increasingly present to health facilities in the late stages of their cancers leading to poor prognosis hence low QOL scores. The study finding is consistent with other studies in Africa that reported that patients with higher education had higher quality of life [8,15]. However, other studies, such as, by Lis, et al. and Yildiz, et al. reported that education had no influence on QOL [16,17]. Importance should be given to health literacy which increases the health awareness of the patients. Health literacy is linked to literacy and entails people's knowledge, motivation, and competences to access, understand, appraise, and apply health information in order to make judgments and take decisions in everyday life concerning healthcare, disease prevention, and health promotion to maintain or improve quality of life during the life course [18]. Patients should have the ability to apply reading and numeracy skills in a healthcare setting. The implication of this finding is that policy makers should increase health promotion to increase awareness and knowledge of cancer. The Kenya cancer policy 2019-2030 states that promotion of public awareness about the causes, consequences and means of prevention and control of cancer will help to reduce cancer cases.

Occupation is known to influence significantly on the health related quality of life of cancer patients [19]. The formally employed had higher social, psychological, spiritual and total QOL scores compared to peasant farmers and casual workers. In the current study it was not established the reason why different type of occupation scored differently on the health related quality of life but various literatures have indicated that occupation was associated with adequate social support based on the high income earnings contribute to higher score on quality of life [1]. Occupation may provide financial means to control the disease, but it can worsen the QoL owing to frequent hospital visits and workload. While unemployed patients may face financial difficulties, they may attend hospital visits in a more comfortable way than those who are employed [14]. The study finding is consisted with other previous studies by Bernhard, et al., Meira, et al., Ali Montazeri, et al. whose findings reported that occupation had significant association with health quality of life [20-22]. The implication of this finding is that policy makers should also come up with package to help cancer patients who are not formal employed to get sufficient social support. Kenya cancer policy should borrow from HIV and AIDS workplace policy which state that normal working hours continue to apply for all employees but a more flexible and human approach is applied for those who are infected or affected. The employers should reduce the working hours for the cancer patient to enable them to have adequate time to manage their personal life and cancer treatment. Also the government should ensure that employer provide proper healthcare for his employs during serious illness.

The patients who earned more than Ksh 10,000 had higher physical, social, psychological and total QOL score than those who earn less. Patients who belong to high-income groups have better ability to cope with disease and as a result have better physical and emotional health related QOL [13]. High income earnings are associated with adequate social support while low income earnings are associated with poverty and low socioeconomic status in the society which are a risk to cancer development [23]. Hassen, et al. in study conducted in Ethiopia suggested that cancer patients with lower socioeconomic status have limited access to health care and receive inadequate treatment for their cancer resulting to poor quality of life [24]. Cancer patients belonging to high-income groups have better ability to cope with disease and as a result have better physical and emotional health related QOL [21]. This finding was consistent with other studies that have reported a significant association between monthly income and overall QOL [1,25]. This finding is contrary with Faiza, et al., in Canada whose result showed that monthly income had no significant with health related quality of life. The implication of this study is the policy makers should come up with kitty to cushion cancer patient coming from low income status to enable them access quality health care services and receive adequate treatment [26].

Patients' marital status was significant associated with quality of life. Married patients had higher social, psychological, spiritual and total quality of life score when compared with other marital status. The study finding agrees with Ustundag, et al., whose findings suggested that single parents had worse Psychological and general well-being than married ones [27]. Married patients had higher quality of life and more family/friends [28]. However marriage already under stress can cause increased stress after cancer diagnosis. The added stress is a risk factor for deterioration in both physical and emotional QOL [29]. A study conducted in China also concluded that older people living alone rated a lack of social relations as a source of low satisfaction with their quality of life [30]. Intimacy, if not sexuality, is a continuing human need for most individuals [31]. Intimacy is closely related to having social relations, including between partners. Because of the steady rise in life expectancy and the gender gap in longevity, the number of older persons who live alone is increasing. Specific attention needs to be paid to older women, because they tend to live longer than their husbands [32]. The study finding disagrees with previous studies by Armstrong, et al., Ustundag, et al., whose findings indicated that that marital status did not influence quality of life, but enhances social support improved the quality of life [27,33]. General well-being, psychological and social domain of married patients' might be because of their higher social supports than those of single ones' [2]. Previous studies by Adam, et al., reported that absence of a social support network has been linked to not only a higher incidence of cancer and but also a more rapid course of illness including greater severity in physical as well as psychological morbidity [34]. The implications of this finding are that marital status differences are predictive of QOL among cancer patients. This may impact on clinical as well as QOL improvement approaches to various marital statuses for patients, thus it is noteworthy to consider these aspects in tailoring treatment and other management modalities to individual patients for optimal outcomes [35-44].

Conclusion

The study concluded that age, level of education, occupation and monthly income were identified as the socio demographic and economic factors affecting QOL among cancer patients.

Recommendation

Health care providers should try hard to disseminate appropriate information tailored to the patients and family context considering cancer the board and specific of treatment effects. Also the healthcare providers need to pay particular attention to the most vulnerable groups such as those with low education, limited social support, and the unemployed, as well as those with low income, young and those with longer duration of illness.

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