



Title: Prevalence of Anxiety, Depression and Their Associated Risk Factors among Cancer Patients in Butaro Cancer Center, Rwanda

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Abstract

Background: Cancer and psychological disorders such as depression and anxiety are likely to interact and management of one without the other is unlikely to produce satisfactory results

Objective: To determine the prevalence and risk factors of anxiety and depression among cancer patients under cancer treatment at Butaro Cancer Centre.

Methods: A sample of 86 adult cancer patients under treatment within the study period was recruited in the study. Hospital Anxiety and Depression Scale (HADs) were used to assess the anxiety and depression among the patients

Findings: of 86 patients who participated in the study, 27(31.4%) were aged 50 and above, 26(30.2%) had breast cancer. The prevalence of anxiety was 48.8% with symptomatic cases while it was on 54.7% for symptomatic depression cases. Married patients demonstrated lower risk of anxiety [AOR: 0.168 with CI: 0.059-0.476] compared to single patients. Male patients had higher risk of depression [AOR: 4.433 and CI: 1.429-13.749] compared to female patients. Level of cancer was statistically associated with depression where patients in level three/four had higher risk of depression compared to those in level one.

Conclusion: The findings of the present study highlight the importance screening for anxiety and depression among patients with cancer receiving anti-cancer treatment and much attention should be oriented to female, married and patients at the terminal stage of cancer.

Keywords: Anxiety, Depression, Cancer, HADs

Introduction

Cancer is a disease that is currently imposing a considerable health burden all over the world. Cancer is estimated to be the leading cause of morbidity and mortality in the future across the world. 18.1 million People have been diagnosed with cancer and 9.6 million cancer deaths occurred in 2018 worldwide compared with 14.1 million and 8.2 million, respectively, in 2012 (World Health Organization, 2018).

Diagnosing a cancer deeply distressing event that has a serious impact on patients and their caregivers and may cause responses of disturbance, uncertainty, hopelessness, extreme fear and sadness that may lead to the anxiety and depression (Nijboer et al., 2019). The comorbidity of anxiety and depression may also occur in up to 40% of individuals diagnosed with cancer (Evans et al., 2018).

Cancer and psychological disorders such as depression and anxiety are likely to interact and management of one without the other is unlikely to produce satisfactory results (Bowers, L. & Byle, H. 2013). The presence of anxiety and depression produces complications in cancer treatment and it can lead to the poor compliance with medication, which may lead to the worsening of the situation (Somerset et al., 2014).

Depression is correlated with demographic characteristics such as age, gender, marital status, and education (Baile et al., 2012). In addition, decreased social support, unemployment, lower education level, and complications as effects of cancer, cancer stage and mode of treatment; have been correlated with increased level of depressive and anxiety symptoms (Cardoso et al., 2016).

The mains of this study were to evaluate the prevalence of and risk factors associated with anxiety and depression among cancer patients.

Methods

Population

All adult patients who were diagnosed with cancer started treatment at Butaro Cancer Centre from January to May 2015 were considered for the study. Patients who were not able to communicate were not considered for this study. A convenience sample of 86 adult patients with a confirmed pathological diagnosis who were given an appointment and being treated in June were invited to participate in this research.

All patients provided written informed consent for participation. The institutional research ethics committee approved the study protocol.

Clinical data have been gathered from the medical records and a structured questionnaire was distributed to patients to collect demographic information during one month.

Clinical assessment

All enrolled patients were screened for the presence of current anxiety and depressive symptoms by means of Kinyarwanda validated version of self-administered HADs questionnaire for cancer patients (Zigmond, 1983). HADs has fourteen items, which are composed by seven questions relating to symptoms of anxiety and seven symptoms of depression. Each questions has four choices that are corresponded to the score ranging from 0 to 3, the lowest score is 0 and highest score is 21. The results provide an idea of a degree of anxiety and depression. They are ranking as follows 0-7=normal, 8-10=mild, 11-14=moderate and 15-21=severe. Higher scores indicate worse symptomatology. Hospital Anxiety and Depression scale (HADs) is well accepted to screen for psychiatric problems in medical illness because it does not include questions about physical symptoms (Uwanyirigira, 2008).

Statistical analysis

The descriptive statistics of the socio-demographic as well as clinical variables were indicated with number (N), percentages (%) and average as appropriate. Categorical variables have been analyzed using Pearson Chi-square test and the significance of various risk factors calculated by multivariate logistic regression analysis with presence of anxiety and depression as dependent variable and risk factors as independent variables. All tests were conducted at the 5% level of significance, proportions and the corresponding 95% confidence intervals (CI) will be applicable.

Results

Sample characteristics

86 subjects, who were given an appointment and being treated during the one month study period (June, 2015) were invited to participate in the study. Some of them were still in their wards while others were attending outpatient services. All of agreed to participate and completed the HADs questionnaire. Table 1 and 2 shows their demographic as well as clinical characteristics

The prevalence of anxiety

The figure1 shows 48.8% of respondents were prevailed with severe and moderate symptoms related to anxiety against 51.2% responded with mild and normal symptoms

The prevalence of depression

The figure 2 shows 54.7% of respondents were prevailed with severe and moderate symptoms related to anxiety against 45.3% responded with mild and normal symptoms.

Risk factors associated with anxiety

Regarding anxiety, univariate logistical binominal regression indicated a statistically significance association with marital status (OR =0.166; CI=0.065-0.422) and the stage of cancer (OR=2.188; CI=0.649-7.380) (data not shown). In multivariate analysis the results showed that married patients had lower risk of anxiety (AOR= 0.168; CI=0.059-0.476, P=0.001) compared to other unmarried patients (Table 3).

Risk factors associated with depression

In regards to the correlate factors with depression, the study revealed a significant relationship with depression prevalence on sex of patient (OR=4.897; CI=1.765-13.588), marital status on P-value of 0.001, stage of cancer with an odd ratios equivalent to OR= 6.832 for stage three and OR=3.719 for stage four. The results also showed that 62.8% of cancer patients with symptomatic depression were found with pain complications against 37.2 % with non-symptomatic depression reported to have pain complications (data not shown). In multivariate analysis, male patient had significantly higher risk of depression (AOR= 4.433 a, CI=1.429-13.749) compared to female (Table 4). The stage of cancer was also associated with depression meaning that as the level of cancer increases and depression does also increase.

Discussion

The findings of the present study depict the high prevalence of depression among patients with cancer where the symptomatic cases were 54.7% against 45.3% of non-symptomatic cases while the spectrum of anxiety was different with 51.2 % of non- symptomatic cases against 48.8 % of symptomatic cases; mainly due to failing to cope adaptively to cancer diagnosis (Ashraf, 2017).

People who avoid sharing their feelings as well as people who do not use their capacity to deal with life stressors are more likely to have anxiety or depressive symptoms. On the contrast, those who share their feelings and concerns with trusted people and using their ability by attempting to find out the ways to handle the life stressors, these ones function better over time (Hinz et al. 2010). In fact, this is known in Rwandan culture, the reason why the prevalence is high, because usually Rwandan do not easily share their feelings (Uwanyirigira, 2008).

The study revealed that some socioeconomic characteristics such as sex of patient, her/his marital status and clinical features like cancer stage and physical complication factors like the pain are likely correlated with anxiety and depressive disorders among patients with cancer

This study is not free from limitations. Due to the absence of clinical interview with participants, which could guide to the clinical anxiety and depression diagnosis as well as the small sample size, any generalization of our results should be approached with precaution. The results should be supported with qualitative data.

Implications for practice

Based on the findings of this study, general nurses who have the expertise to provide daily care for cancer patients, supporting them and their family members during the sickness.

The general nurse in oncology service is the clinician who knows a person before he is diagnosed with cancer and may then be best placed to assess the reaction related to the diagnosis of cancer. Furthermore, as depression and anxiety related to cancer diagnosis frequently arise after the primary cancer treatment, obviously the nurse in oncology service will first identify a mental health issue and introduce as well as coordinate mental health care that will be delivered to the patient (Jeremy, W.C, 2012).

However, nurses may not have the confidence and experience related to assessment and management of mental disorders commonly found among cancer patients mainly depression and anxiety disorders. These findings emphasize the education and training of nurses working in oncology services for them to be equipped for the practical skills, competencies for assessment, diagnosis and management of depression and anxiety disorders. Training of general nurses on mental health care can significantly affect nurses' fundamental knowledge about mental health care, as well as their attitudes towards patients with mental disorders in order to deliver comprehensive care. (Harden et al., 2017).

General nurses are frontline health professionals who are in first contact of individuals, the family and community with the national health system. Equipping these health workers with mental health skills promote a more holistic approach to cancer patient care and ensures the prevention of mental disorders among patients. In addition nurses will be confident in assisting the patient's family to cope and build the resilience and above all they will be able to recognize the need to seek further consultation whenever it is needed. (Feller et al., 2016)

The current study also supports the relevance of pain assessment among cancer patients receiving anti-cancer treatment. A routine of pain can help nurses or other oncology services staff to systematically identify patients with depression and anxiety disorders. (Tatsuo et al., 2012)

In conclusion, diagnosed with cancer was associated with a high prevalence of anxiety and depression than other non-infectious diseases. However, given the reason why the great number of person with cancer had anxiety as well as depressive symptoms, first line psychological screening and treatments for this condition should be integrated into the routine care of them.

Disclosure

The Authors report no conflict of interest

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Figure 1. The score levels of anxiety

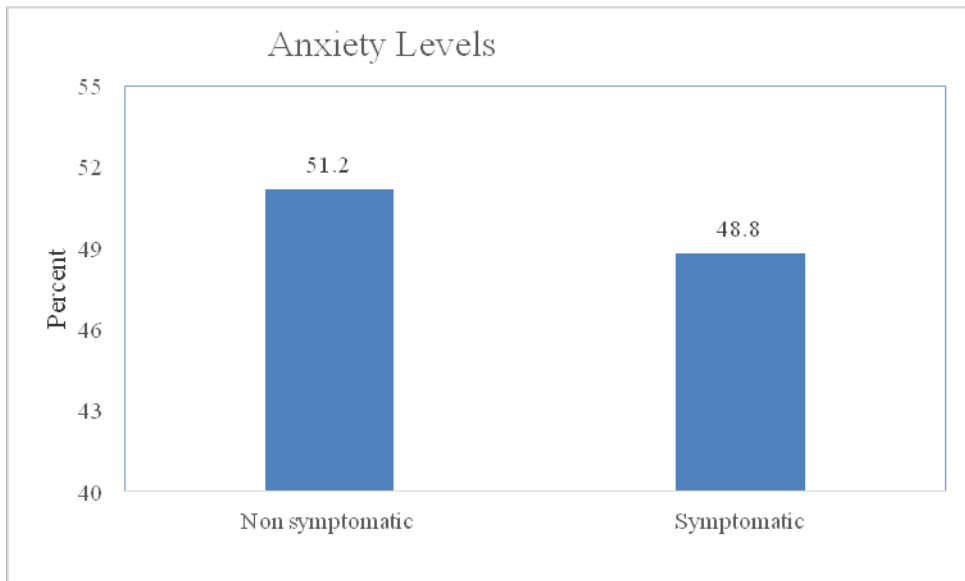


Figure. 2 The score levels of depression

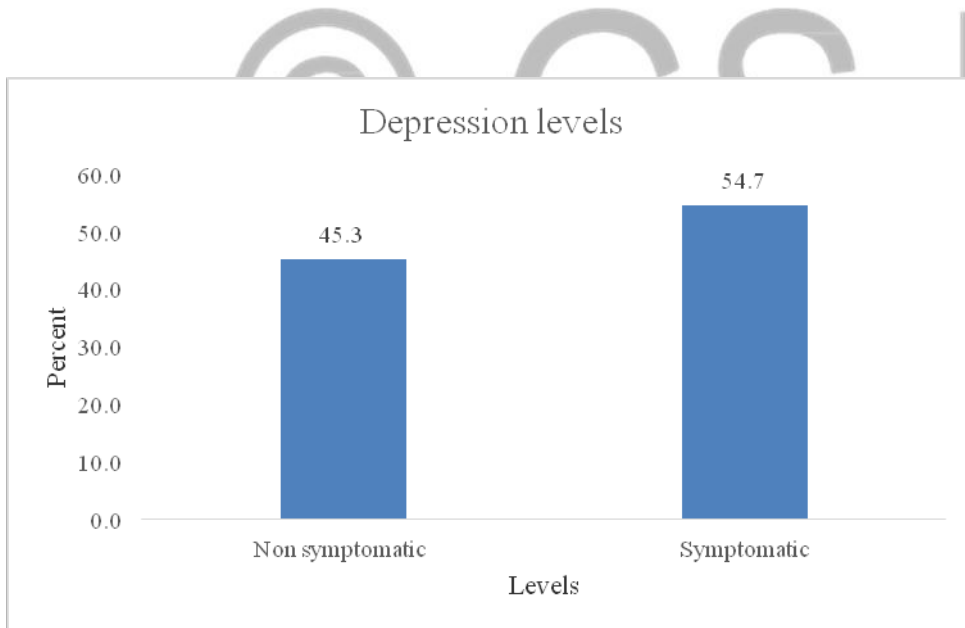


Table. 1 Socio-demographic characteristics of respondents

Socio-demographic variables	Attributes	Frequency (N)	Percent (%)
Age (Years)	21-30	19	22.1
	31-40	26	30.2
	41-50	14	16.3
	50 and above	27	31.4
Gender	Male	25	29.1
	Female	61	70.9
Marital status	Not married	45	52.3
	Married	41	47.7
Education level	Illiterate	17	19.8
	Primary	39	45.3
	Secondary	24	27.9
	University	6	7
Employment status	Student	13	15.1
	Farmer	46	53.5
	Employed	12	14
	Unemployed	15	17.4
Social support	Good	22	25.6
	Fair	40	46.5
	Poor	24	27.9
Religion	With Religion	72	83.7
	No Religion	14	16.3

Table. 2 Clinical factors related to cancer patients

Clinical variables	Attributes	Frequency (N)	Percent (%)
Type of cancer	Breast	26	30.2
	Cervix	15	17.4
	Rectum	8	9.3
	Blood	11	12.8
	Others	26	30.2
Stage of cancer	I	24	27.9
	II	28	32.6
	III&IV	34	39.5
Treatment type	Chemotherapy	57	66.3
	Radiotherapy	12	14
	Surgery	17	19.8
Complication	Pain	43	50
	Fatigue	29	33.7
	Vomiting	14	16.3



Table 3: Factors associated with Anxiety

Variables	95% Confidence Interval			P- Value
	AOR	Lower	Upper	
Marital status				
Married	0.168	0.059	0.476	0.001
Not Married	ref			
Level of cancer				
Level III&IV	0.903	0.240	3.399	0.881
Level II	2.394	0.708	8.099	0.160
Level I	ref			
Complication suffer				
Pain	0.376	0.086	1.656	0.196
Fatigue	0.507	0.108	2.374	0.388
Vomiting	ref			
Depression	0.378	0.120	1.187	0.096

Table 4: Factors Associated with depression

Variables	95% Confidence Interval			P- Value
	AOR	Lower	Upper	
Patients' sex				
Male	4.433	1.429	13.749	0.010
Female	ref			
Marital status				
Married	0.936	0.300	2.926	0.910
Not Married	ref			
Level of cancer				
Level III&IV	3.526	0.971	12.806	0.054
Level II	1.807	0.528	6.193	0.034
Level I	ref			
Complication suffer				
Pain	0.288	0.066	1.251	0.097
Fatigue	0.304	0.065	1.433	0.132
Vomiting	ref			
Anxiety	0.391	0.128	1.188	0.098

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