Original Research Article

HEALTH RELATED QUALITY OF LIFE OF WOMEN WITH GYNECOLOGICAL CANCER RECEIVING CHEMOTHERAPY IN THE UNIVERSITY COLLEGE HOSPITAL, IBADAN.

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ABSTRACT

Aims: This study assessed the health related quality of life of women with gynecological cancers on chemotherapy, Identified their major concern and also assessed the relationship between quality of life with prevalent side effects as experienced by those women.
Study design: Cross sectional descriptive study on women with gynecological cancer on chemotherapy.
Place and Duration of Study: Radiation Oncology Department, University College Hospital Ibadan, between June 2018 and August 2018.
Methodology: Purposive sampling technique was used to select 117 women with gynecological cancer undergoing chemotherapy treatment at the University College Hospital, Ibadan. QoL was measured with EORTC QLQ-C30 version 3.0. The side effects were assessed by adapting Memorial Symptoms Assessment Scale. Relationships between QoL score and side effects was analyzed using Chi-square test at 5% level of significance.

Results: The mean age of participants is 48.8 years. Cervical cancer (69.2%) is the most prevalent gynecological cancer as revealed in this study. In sub-dimensions of the functional status scale the scores of cognitive and physical status were found higher while emotional and social status score were found lowest. For Global health status, majority of the respondents rated it good (82.1%). Financial difficulty ranked the highest concern (88%). There was a statistically significant association between health related quality of life and side effect of chemotherapy (p= 0.02). **Conclusion:** Gynecological cancer and its treatment causes a significant problem on the social, emotional and role aspect of QoL.. Preventing and minimizing the effect of the symptoms of gynecologic cancer by prompt management of side effects of chemotherapy may positively impact on patient QoL.

Keywords: Health related quality of life, gynecological cancer, Chemotherapy, Side effect.

INTRODUCTION

Gynecological cancers are a frequent group of malignancies in women, accounting for approximately 18% of all female cancers worldwide [1].Approximately 84,000 new cases are diagnosed and about 28,000 deaths occur each year from gynecologic cancer among women in the United States [2]. Prevalence of gynaecologic cancers is ranked as the fourth around the world and it is ranked as the second after breast cancer in Turkey [3]. Cervical cancer is a frequently diagnosed gynecological cancer in Africa and the leading cause of death of women in Eastern Africa, accounting for about 12% of the total new cancer cases and 10% of cancer deaths in Eastern Africa [4]. The gynaecologic cancer burden in developing countries like Nigeria is huge primarily due to the high incidence and mortality of cervical cancer [5].

The risk for the development of cancer begins to increase at 40 years of age and then increases rapidly at age 50years [6]. However, some researchers maintains that cancer does not have to be an

inevitable consequence of growing older and that whether the relationship between age and cancer risk is due primarily to the time-dependent accumulation of genetic and epigenetic mutations or to an increased susceptibility of older adults to oncogenic mutations (due to reduced immune function) is not fully understood [7,8].

A recent global report by the International Agency for Research on Cancer showed that gynecological cancers accounted for 25% of all new cancers diagnosed in women aged up to 65 years compared with 16% in the developed world [9]. This observed trend in developing countries has been attributed to several possibilities including the shift to a Western lifestyle and behaviors such as cigarette smoking, low fiber/high fat diets, and less physical activity; a high prevalence of immune-suppressing conditions such as malnutrition, tuberculosis, and human immunodeficiency virus; a high prevalence of oncogenic infections such as hepatitis B virus, human immunodeficiency virus, hepatitis C virus, human papilloma virus, and Helicobacter pylori [10].

Cancer itself causes comorbid symptoms and treatment strategies are also debilitating by decreasing cardiorespiratory capacity, pain, fatigue and suppressing immune function, others like psychological stress, anxiety, depression, fear of recurrence, sleep dysfunction and impaired Quality of Life are residual symptoms during and after cancer treatment [11]. Chemotherapy can give rise to acute and long term side effects which in turn can significantly compromise patient's QoL. The 5-year survival rate for gynecological cancers in Africa is 30% whereas the 5-year survival rates for gynecological cancers in developed countries is 74% [3]. The low 5-year survival rates in Africa are mainly associated with lack of early detection programs, adequate diagnosis, and treatment facilities, resulting in a high proportion of women presenting with late stage disease [12]. Although prolongation of survival remains the primary goal of chemotherapy, the palliation of symptoms and preservation of quality of life are also important treatment considerations [13]. In this new era of cancer management more emphasis is on QoL then quantity of life and where total cure is a remote possibility so there is a need of measurement of QoL which may indicate adaptation to disease and chemotherapy by the patients [14]. More so, assessment of quality of life is believed to be an important element in the assessment of individuals on chemotherapy because after the diagnosis of gynecologic cancer, women are faced with the diagnosis itself, personal interpretation of cancer, physical effects of the disease, long and short term side effects of the treatment regimes and the reaction of family and friends [15,16]. Chemotherapy, unlike surgery has many adverse reactions including hair loss, nausea, vomiting, fatigue and diarrhea; besides it requires extended periods of treatment and repeated admissions to the hospital, which can eventually affect the QoL of patients with cancer.

When treatment can not result in cure, it should lead to an improvement of well-being and quality of life [17]. Quality of Life for patients is defined as "extent to which one's usual or expected physical, emotional and social well-being is affected by a medical condition or its treatment". While Health-related quality of life (HRQOL) is a subjective health status that focuses more on the impact of a perceived health state on the ability to live a fulfilling life. For patients living with cancer, all aspects of life are influenced negatively [18]. Patients with cancer receiving chemotherapy face some psychological problems- stress, anxiety, depression; some physiological side-effects — hair loss, pain, tiredness, nausea, vomiting; some social side effects — social isolation, role and function loss; and, eventually, a worsened quality of life [19]. In recent times, the goal of cancer therapy is not only to cure the cancer and increase the survival, but also to minimize the symptoms, relieve suffering, restore functioning, or enhance the quality of life [13]. Higher quality of life leads patients to complete therapy with the lowest harm, control experienced symptoms and overcome these symptoms.

Most of the gynecologic cancer patients presented with advanced cancer and generalized metastases to various organ systems; as a result, most women had several symptoms and had been sick for about 2 years before diagnosis, due to poor access to specialized health care, thus affecting their quality of life [20].

Also, the problem of finances as the cost of chemotherapy is usually unaffordable, and this is a major obstacle for many patients to continue with the treatment [21]. Knowledge about QoL issues is crucial to constitute follow-up care programs adjusted to the survivors' needs and provide appropriate education in prevention and early detection of survivors' needs and ultimately improve their QoL [22]. Currently, there is paucity of such studies assessing HRQoL of women with gynecological cancer on chemotherapy in Nigeria. This has prompted this study, which assessed the Health Related Quality of life in women with gynecologic cancers receiving chemotherapy at the University College Hospital Ibadan, Oyo State Nigeria.

MATERIALS AND METHODS / METHODOLOGY

The descriptive cross-sectional research design was used to elicit information from women with gynecological cancers on chemotherapy at the University College Hospital (UCH), Ibadan. UCH is located on Queen Elizabeth road in Ibadan North Local Government Area of Ibadan. It was established in 1958 as one of the foremost tertiary hospital to perform the tripartite function of training, research and service to the people of Nigeria in particular and Africa as a whole. It has 45 specialty departments including Radiation Oncology department. The Radiation Oncology department comprises of radiation oncology clinic and radiation oncology ward: the clinic opens Monday to Friday and provide care for patients on an outpatient basis whereas, the ward is a 16 bedded ward for both male and female patients that require inpatient care. The department renders both radiotherapy and chemotherapy treatment for all forms of cancers.

117 women with gynecological cancer and on chemotherapy were purposively selected for this study. The number of women was determined using the formula for calculating single proportion [23], where: $n = \frac{z^2 pq}{d^2}$ and z was set at 1.96 (95% confidence interval). The data were collected between 1st of June, 2018 and 30th of August, 2018. Due to the small number of the study population, all patients who were living with gynaecological cancers and on chemotherapy, above the age of 18 and agreed to participate in this study were included in this study while women who were newly diagnosed with gynecological cancer, yet to commence chemotherapy, below the age of 18 years, too ill or living with dementia were excluded from this study.

For each woman recruited, explanations were made about the study focusing on the study objectives, problem statement and methods with emphasis on their right to confidentiality, right to refuse to participate, beneficence and non-maleficience before consent were obtained.

The instrument for the study consisted of both self-structured items and validated instruments. Section A assessed information on socio demographic characteristics of the participants e.g age, sex, type of cancer, educational level etc, this constitutes questions 1 - 10. Section B Second part included European Organization for Research and treatment of Cancer Quality of Life Questionnaire EORTC QLQ-C 30 version 3.0 questionnaire which is an integrated system for assessing the health related QoL of cancer patients. The core questionnaire, the QLQ-C30, is the product of collaborative research. It was first released in 1993 and has been used in a wide range of cancer clinical trials, by a large number of research groups [24]. Section C assessed the side effects of chemotherapy adapting Memorial Symptoms Assessment Scale (MSAS).

The QLQ-C30 version 3.0 incorporates five functional scales (physical, role, cognitive, emotional, and social), a global health status/ QoL scale and symptom scales which include a number of single items assessing additional symptoms commonly reported by cancer patients. This questionnaire includes a total of 30 items and is composed of scales that evaluate physical (5 items), emotional (4 items), role (2 items), cognitive (2 items) and social (2 items) functioning as well as global health status (2 items). Higher mean scores on these scales represent better functioning. The questionnaire also comprises 3 symptom scales measuring nausea and vomiting (2 items), fatigue (3 items) and pain (2 items), and 6 single items assessing financial impact and various physical symptoms such as dyspnea, insomnia, appetite loss, constipation and diarrhea. All of the scales and single-item measures range in score from 0 to 100. A high scale score represents a higher response level. Thus a high score for a functional scale represents a high/ healthy level of functioning; a high score for the global health status/ QoL represents a high QoL; but a high score for a symptom scale/ item represents a high level of symptomatology [24]. Two research assistants were recruited and together with the researcher, obtained the data for this study.

The data collected was analyzed using IBM Statistical Package for Social Sciences (SPSS, version 22). To determine the quality of life levels, descriptive statistics were used (mean, standard deviations and frequencies). Prevalent side-effects were then identified as those with higher frequencies. The side effects were also categorized as 'mild' and 'severe' using the mean (33.65 ± 7.40). Association between Side effects of chemotherapy and health related quality of life of women with gyneacologic cancers on chemotherapy was analyzed using Chi-square test at 5% level of significance.

Results

The mean age was 48.8 years (±10years). 74.4% where Christians while 25.6% of the respondents were Muslims. 65.8% were of Yoruba tribe, 27.4% of Igbo tribe while 6.8% were of Hausa tribe. 53% of the respondents were married, 22.2% were divorced and 6.8% were single. Cervical cancer was the most prevalent 69.2% respondents followed by ovarian cancer in 17.1% respondents, endometrial cancer in 6.8% respondents while vaginal and vulva cancers occurred equally among 6.8% respondents. The mean course of chemotherapy was 3times (±1.5times), mean number of children was 4 children (±2children). 62.4% were traders, 20.5% were housewives, and 13.7% were civil

servants while 3.4% were students. About 41.0% had a tertiary education, 39.3% had only secondary school education, 16.2% had only primary school education while only 3.4% of respondents had no formal education.

Table 1: Respondent's demographic characteristics

Variable	Frequency	Percentage (%)	Mean	Standard deviation	Minimum	Maximum
Age			48.79	10.04	28	68
28-34	16	13.7				
35-41	5	4.3				
42-48	39	33.3				
48.8-54	20	17.1				
55-61	20	17.1				
62-68	17	14.5				
Religion						
Islam	30	25.6				
Christianity	87	74.4				
Others	0	0.0				
Tribe						
Hausa	8	6.8				
Igbo	32	27.4				
Yoruba	77	65.8				
Others						
Occupation						
Civil servant	16	13.7				
Trader	73	62.4				
Student	4	3.4				
Housewife	24	20.5				
Level of education						
Primary	19	16.2				
Secondary	46	39.3				
Tertiary	48	41.0				
No formal education	4	3.4				
Other treatment received						
Surgery	16	13.7				
Radiotherapy	71	60.7				
None	30	25.6				

Table 2: Respondent's demographic characteristics

Variable	Frequency	Percentage (%)	Mean	Standard deviation	Minimum	Maximum
Cancer type						
Ovarian	20	17.1				
Cervical	81	69.2				
Vaginal	4	3.4				
Vulva	4	3.4				
Endometrial	8	6.8				
Course of chemotherapy			3.03	1.50	1	6
1	14	12.0				
2	37	31.6				
3	33	28.2				
4	9	7.7				
5	12	10.3				
6	12	10.3				

The women's mean EORTC QLQ-30 scores were given in Table 3. When the patients' QoL scores were evaluated, the mean of global health QoL score was determined as (63.03 ±18.09). When the sub-dimensions of the functional status scale were evaluated, the mean of cognitive score (61.6±33.56) was found higher than other dimensions. However, Social score (36.75±33.59) was the lowest score in women with gynecologic cancer. Fatigue score (56.4±28.0) was found higher than all other symptoms. The major concern as seen from the single items scale is financial difficulties (88.3±25.26).

Table 3: Health related quality of life of respondents

Variable	Mean	Standard deviation	Minimum	Maximum
Functional scale				
Physical functioning	60.40	36.79	0.00	100.00
Role functioning	53.70	34.82	0.00	100.00
Emotional functioning	49.43	32.29	0.00	100.00
Cognitive functioning	61.60	33.56	0.00	100.00
Social functioning	36.75	33.59	0.00	100.00
Symptom scale				
Fatigue	56.41	28.01	16.67	100.00
Nausea and vomiting	51.19	31.90	0.00	100.00
Pain	50.85	29.18	16.67	100.00
Quality of life scale /global health status	63.03	18.09	33.33	83.33
Single items				
Dyspnea	25.64	34.57	0.00	100.00
Insomnia	50.14	33.80	0.00	100.00
Appetite loss	54.13	32.37	0.00	100.00
Constipation	41.60	31.84	0.00	100.00
Diarrhea	15.95	27.54	0.00	100.00
Financial difficulties	88.31	25.26	0.00	100.00

Table 4 shows that 82.1% of the respondents have a better health related quality of life while 17.9% has a worse health related quality of life.

Table 4: Categories of respondents' health related quality of life

Health related quality of life	Frequency	Percentage (%)
Better	96	82.1
Worse	21	17.9

From table 5 below, it could be deduced that the prevalent side effects of chemotherapy among respondents (in order of occurrence) are problem with sexual activities (69.2%), worrying (50.4%), pain (49.6%), dizziness (46.2%), itching (39.3%), nausea (38.5%), fatigue and nervousness (36.8%), problem with urination (35.1%), lack of appetite (28.2%), vomiting (27.3%), difficulty in sleeping and feeling of sadness (24.0%), shortness of breath (20.6%)with the least being constipation with 18.8%.

Table 5: Side effects of chemotherapy

Variable	Not at all F(%)	Slightly F(%)	Severe F(%)
Problem with sexual activities	24(20.5)	12(10.3)	81(69.2)
Worrying	24(20.5)	34(29.1)	59(50.4)
Pain	33 (28.2)	26(22.2)	58(49.6)
Dizziness	24(20.5)	39(33.3)	54(46.2)
Itching	29(24.8)	42(35.9)	46(39.3)
Nausea	13(11.1)	59(50.4)	45(38.5)
Lack of energy/fatigue	41(35.0)	33(28.2)	43(36.8)
Feeling nervous	41(35.0)	33(28.2)	43(36.8)
Problem with urination	37(31.6)	39(33.3)	41(35.1)
Lack of appetite	29(24.8)	55(47.0)	33(28.2)
Vomiting	23(19.7)	62(53.0)	32(27.3)
Difficulty in sleeping	41(35.0)	48(41.0)	28(24.0)
Feeling sad	36(30.8)	53(45.3)	28(24.0)
Shortness of breath	52(44.4)	41(35.0)	24(20.6)
Constipated	42(35.9)	53(45.3)	22(18.8)

Table 5: **Categories of side effects of chemotherapy experienced by respondents**

Table 5: above shows that the mean score for side effects of chemotherapy (33.65 ± 7.40) with the minimum and maximum scores being 21 and 45 respectively. The categories of side effect experienced by women on chemotherapy were also presented. It could therefore be deduced that 75.2% of women suffered severe side effects whereas only 24.8% suffered mild side effects of chemotherapy.

Side effects of chemotherapy		Mean	Standard deviation	Minimum	Maximum
Mild	**Severe**	33.65	7.40	21	45
29(24.8%)	88(75.2%)				

Association between the side effects of chemotherapy and health related quality of life of women with gyneacological cancers on chemotherapy.

Table 6, the P=Value 0.02 is less than 0.05 and it can therefore be concluded that there is significant association between health related quality of life and prevalent side effects experienced by women on chemotherapy. Therefore, the null hypothesis is rejected.

Association between the side effects of chemotherapy and health related quality of life of women with gyneacologic cancers on chemotherapy.

Table 6

Variable	Prevalent side effects		X^2	P-value
	Mild	**Severe**		
Quality of life			8.434	0.015
Better	29(24.8%)	67(57.3%)		
Worse	0(0.0%)	21(17.9%)		

DISCUSSION

The ages of respondents ranges between 28 and 68years, with mean age of 48.8 years (±10years) this is in agreement with findings from a similar study [25] with a mean age of 48.4 (± 12.0) years. Age has been reported to be a single predictor of cancer development. Risk for the development of cancer begins to increase at 40 years of age and then increase rapidly at age 50years [6].

In this study, gynaecologic cancer includes cervical cancer, ovarian cancer, endometrial cancer, vulva and vagina cancer. Cervical cancer was the most prevalent (69.2%) respondents followed by ovarian cancer in (17.1%) respondents, endometrial cancer in (6.8%) respondents while vaginal and vulva cancers occurred equally among (3.4%) respondents, this report is in agreement with a large review carried out in Lagos and Ibadan (South West Nigeria) in 2011 showed that cervical cancer was second only to breast cancer as the commonest cancer in the region [26]. The pattern from Aminu Kano Teaching hospital in the largest metropolis in the north west of the country equally shows that cervical cancer is the commonest Gynaecologic malignancy in women. Cervical cancer is the 4th commonest cancer in women and the 7th overall worldwide [27]. Its highest incidence occurs in less developed areas of the world where 85% of the cases now occur [2].

In this study, the sub-dimensions of the functional status scale were evaluated, the mean of cognitive and physical score was found higher while emotional and social functional sub dimensions score were found lowest in women with gynecological cancer on chemotherapy. Similarly, a study in Turkey, which evaluated QoL of women using EORTC QLQ-C30 scale, stated that emotional (49.55±32.42) aspects of QoL were mostly affected among the functional parameters and cognitive function (66.33±27.45) was found higher [15]. The report is also in line with a result from a similar study by [1] the mean of cognitive score was found higher than other dimensions and emotional score was the lowest score in women with gynecologic cancer. It was stated in their study that the low social functioning score, and especially emotional functions have been observed to decrease significantly in the women with gynecological cancer and the findings indicates the impaired QoL in cancer patients [1]. In Nigeria, families, parental, and friends support is at quite a low level, some see cancerous disease as a hopeless case thereby abandoning their relations with such disease at such a critical state thus making an immense contribution to the impaired social and emotional well-being. Also, cancer requires a long treatment process and obscurity keep the patients away from social life and lead to disturbances in interpersonal relationships resulting into low social functioning [1].

Regarding self-rated health, most of the respondents (63.03 ±18.09) rated it as very good or good and considered that they are satisfied with it. A similarly high score for global health was reported in a study on Quality of Life of Women with Gynecologic Cancer in Turkey [sueli and livia, 2001 28] where it was stated that high score of global health result indicates that, in view of the prospect of progress of a chronic disease, they are satisfied with the moment they are experiencing. Although, the QoL as

seen in this study is higher than that reported and may be attributed to racial difference. In another study on the Quality of Life in Cancer Patients undergoing Chemotherapy, findings show that the Quality of life (QoL) was fairly favorable in majority (66%) of the patients [29].

In relation to the symptom scale out of the 96 respondents with a better quality of life, 33 has mild symptom with good functioning while 63 has severe symptoms with poor functioning. All the 21 respondents with worse quality of life have severe symptom and poor functioning. Despite the severe symptoms experienced with poor functioning by majority, they still claimed to have good quality of life this could be related to the fact that Nigerians are very strong and still claim to be fine in the face of hardship.

On the single scale, financial difficulty ranked the highest followed by fatigue, pains, loss of appetite, nausea and vomiting (88%,56%,54%,51% and 50%) respectively. It was also observed that financial difficulties ranked highest in a study carried out at the university college hospital on health related quality of life in women with breast cancer [30]. The problem of finances is a major cause of health deterioration as the cost of chemotherapy is usually unaffordable, and this is a major obstacle for many patients to continue with the treatment [30]. Fatigue is the most significant problem affecting the daily activities and life of cancer patients. In this present study, fatigue score was found second highest for women with gyneacological cancer on chemotherapy. Pain and fatigue were the most troublesome symptoms reported in a similar study also carried out in Ibadan [30]. There was a statistically significant association between the prevalent side effects and health related quality of life of women with gyneacological cancer on chemotherapy (P = .02). This study revealed that larger number of the respondents had good health related quality of life but majority experiences severe side effects of chemotherapy.

CONSENT

Informed consent form was obtained from all respondents before administering the questionnaires.

ETHICAL ASPECTS AND CONFLICT OF INTEREST

Ethical approval sought and obtained from the joint University of Ibadan/University College Hospital (UI/UCH) ethical review board. **IRB Research approval number: UI/EC/18/0157.**

There is no conflict of interest.

Limitation: The study was limited by insufficient literature on HRQOL in Nigeria, thus creating a dearth of local literature in this area of study and Inadequate fund which did not enable the researcher to consider a larger sample population.

Conclusion

This study revealed that larger number of the respondents had good health related quality of life but majority experiences severe side effects. Minimizing the side effect of chemotherapy may positively impact on patient's health related quality of life, and there is need for regular assessment of health related quality of life of women with gyneacological cancer because measuring the impact of cancer and its treatment on patients' quality of life is being recognized as an important outcome measure.

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