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Symptom Self-Management Strategies of Cancer Patients Undergoing Chemotherapy in the Two Teaching Hospitals in Lagos State, Nigeria

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ABSTRACT

Cancer patients on chemotherapy experience nausea, vomiting, and fatigue among other side-effects. However, many of them don't know how to use self-management to lessen these effects on their health. Therefore, this study assessed cancer patients' knowledge and self-management strategies for cancer and chemotherapy-induced nausea, vomiting and fatigue side-effects in two Teaching Hospitals in Lagos State, Nigeria.

A descriptive study of 222 cancer patients on chemotherapy aged 18years and older conducted in LUTH and LASUTH Oncology Clinics used purposive sampling to recruit 160 respondents. A pretested structured researcher-designed questionnaire was used to collect data with a 99.4% response rate. Descriptive and categorical statistics were used to analyse data and results were presented in tables, frequencies and percentages.

Findings showed that 34.0% of the respondents were aged 58-67years with 83.6% females and 16.4% males. 66.7% were married, 44.7% were self-employed while 32.7% were on less than N30,000 monthly income. 62.9% knew what cancer is but 23.3% termed it a tumour. Majority (64.2%) knew cancer affects all humans and 50.9% preferred chemotherapy to treat it but self-management knowledge level of 61.6% of them was low, 22.0% was average while

that of 16.4% was high. Generally, their nausea self-management strategies was poor ($\bar{x}$=2.25), vomiting was fair ($\bar{x}$=2.5) while fatigue was good ($\bar{x}$=2.87).

Conclusively, many respondents had low knowledge of cancer self-management and poor nausea self-management strategies, hence, Oncology professionals need to enlighten cancer patients on effective cancer and chemotherapy nausea, vomiting and fatigue self-management strategies to achieve improved health.

Keywords: Cancer patient, Chemotherapy, Self-management strategies, Symptom self-management

INTRODUCTION

Cancer, an unrestrained proliferation of abnormal body cells and a major chronic health issue, can be caused by bio-chemical and physical carcinogens including radiation, arsenic compounds, asbestos, viruses, and bacteria leading to destruction of nerves and tissues with devastating effects and untimely death of patients worldwide (Nwozichi, Ojewole, & Oluwatosin, 2017; World Health Organization [WHO], 2022)

In 2020, cancer caused about 10 million deaths and over 19 million new cases thus making it a global public health concern (Union for International Cancer Control [UICC], 2020; WHO Factsheet, 2022). It is also estimated that by the end of 2023, there would be about 1.96 million new cancer cases (Siegel, Miller, Wagle & Jemal, 2023). Cancer burden also threatens developing countries as prostate cancer is high in sub-Saharan Africa compared with people from other continents while breast cancer five-year survival rate in low- and middle-income African countries is less than 60% (Ayalew, Ayalew, Alemu, & Gebru, 2022; WHO, 2022). Furthermore, a three-year study of 548 Oncology patients in Nigeria by Fapohunda, Fakolade, Omiye, Afolaranmi, Arowojolu, Oyebamiji, Nwogu, Olawaiye & Mutiu (2020) showed that 'male prostate cancer (32%) and female breast cancer (46%) were commonest while 92% of these cancers were malignant'. As at 2018 according to the study by Fatiregun, Bakare, Ayeni, Oyerinde, Sowunmi, Popoola, Salako, Alabi, & Joseph, (2020), Nigeria had about 102,000 diagnosed cancer cases and about 72,000 deaths. In line with this, the authors' 10-year study of cancer mortality pattern in LASUTH, Ikeja, Lagos, also reported that 1,133 (17.2%) cancer-related deaths occurred out of recorded total deaths of 6,592 within 2009-2018. In the estimation of Parkin, Hammerl, Ferlay & Kantelhardt, (2020), there might be 'over 1.27 million new cancer cases and about a million deaths based on a projected population increase to 1.56 billion by the year 2030'. Nevertheless, correct diagnosis and timely treatment using surgery, radiotherapy and chemotherapy may cure some cancers (World Cancer Research Fund [WCRF], 2020).

Although chemotherapy cytotoxic agent destroys cancer cells, improves overall patient health and reduces cancer recurrence by controlling symptoms and delaying cancer progression (Chin, Tseng, Chao, Wang, Wu, & Liang, 2021; Chui, 2019), still, its side effects include nausea, vomiting, fatigue, numbness/tingling sensation, diarrhoea, alopecia, and reduced libido which 'patients have to adjust and live with' (Nwozichi et al, 2017; Yahaya, Subramanian, Bustam & Taib, 2015). Furthermore, chemotherapy given in an outpatient clinic requires patients to utilize self-management strategies at home to reduce its side effects (Coolbrandt, Dierckx de Casterlé, Wildiers, Aertgeerts, Van der Elst, van Achterberg, & Milisen, 2016). Unfortunately, cancer patients' low knowledge of symptom self-management negatively affects the patients and the society at large thereby increasing cancer burden, but 'well-informed patients have a better control over their health and a better quality of life' (Berger, Gronberg, Loge, Kaasa, & Sand, 2018), hence, cancer patients have to practice self-management strategies so as to reduce the burden on their health (WHO, 2022).

Based on reviewed articles, symptom self-management strategies are activities used by cancer patients to 'cope with their cancer disease and chemotherapy-related symptoms daily to 'improve physical and emotional distress, quality of life and reduce healthcare costs' (Linder, Erickson, Stegenga, Macpherson, Wawrzynski, Wilson & Ameringer, 2017). Such strategies according to Ahmad, Reinius, Hatcher & Ajithkumar, (2016); Brown, Haste, Araujo-Soares, Skinner, & Sharp, (2021); Linder et al., (2017); McCorkle, Ercolano, Lazenby, Schulman-Green, Schilling, Lorig & Wagner, (2011), include 'adopting healthy lifestyle, dietary changes, drinking more water, quitting smoking and alcohol, rest, sleep and relaxation, family and peer social support, taking medication and attending follow-up screening' as well as 'use of positive health behaviours, managing anxiety and chronic

diseases, accepting cancer status, positive coping, moderate physical exercise, acquiring knowledge about cancer, setting positive goals, reasoned decision-making, developing confidence and self-efficacy, maintaining positive personal disposition, having positive social relationships and talking problems over with healthcare professionals'. However, Dineen-Griffin, Garcia-Cardenas, Williams & Si (2019); Friend, Feltbower, Hughes, Dye & Glaser, (2018); & Geenen, Cardous-Ubbink, Kremer, van den Bos, van der Pal, Heinen, Jaspers, Koning, Oldenburger, Langeveld, Hart, Bakker, Caron & van Leeuwen (2007) opined that cancer survivors may still 'develop psychosocial, educational, employment and chronic health problems post-chemotherapy', but appropriate self-management strategies can lead to improved cancer symptoms and a better quality of life. A study of symptom self-management strategies used by 100 cancer patients aged 65 years and older by Loerzel (2018) found that the patients were at high risk and more vulnerable to 'treatment-related symptoms as they reported 7.2 symptoms and 3.4 home self-management strategies'. The author opined that increasing number of older adults in the U.S. and worldwide will increase cancer cases and burden limited healthcare services (Loerzel, 2018). Also, another study by Brown et al., (2021) on strategies used by 24 childhood cancer survivors revealed that they adopted different measures including 'healthy lifestyle, family support, clinic follow-up attendance and health screening' (Brown et al., 2021).

The study by Sikaiye and Sowunmi (2019) on knowledge of cancer patients in Lagos on self-management of post-chemotherapy nausea, vomiting and fatigue reported that males had higher knowledge than females, and university graduates were more knowledgeable than other school leavers. Importantly, determining cancer patients' knowledge of cancer self-management will enable Oncology healthcare providers evaluate the patients and plan 'supportive self-management intervention and better services' based on individualized nursing care plan that will ensure active involvement of the patient and his family members in his care. This will also result in positive rapport between the nurse, the patient and family members, as well as improved patient health outcome (Brown et al, 2021; McCorkle et al, 2011).

AIMS OF THE STUDY

Cancer patients in Teaching Hospitals in Lagos State need to utilize effective self-management to enable them cope with their health and prolong their lives. However, these patients may not be aware of the strategies to use to achieve improved health as only few literatures are available on cancer patients' self-management practices. This study was therefore carried out among cancer patients undergoing chemotherapy in Oncology Clinics of LUTH and LASUTH to:

1. Assess cancer patients' knowledge of cancer, and
2. Identify cancer patients' self-management strategies in dealing with post-chemotherapy nausea, vomiting and fatigue.

METHODOLOGY

Study Design

This study adopted a cross-sectional descriptive research design that was aimed at assessing 'Knowledge and Symptom Self-Management Strategies of Cancer Patients undergoing Chemotherapy in the Two Teaching Hospitals that cater for cancer patients in Lagos State, Nigeria'

Study Setting

Lagos University Teaching Hospital (LUTH) and Lagos State University Teaching Hospital (LASUTH) are teaching hospitals in Lagos State, Nigeria established and funded by Federal and

Lagos State governments respectively to train healthcare personnel, treat patients and carry out research. The hospitals have fully equipped structures including specialty departments and Oncology Clinics to care for cancer patients as well as trained Oncology and other specialty staff members.

Population

The total population for this study comprised 222 Cancer Patients undergoing Chemotherapy in Oncology Clinics of both teaching hospitals within a four-week period (LUTH=90, LASUTH =132).

Inclusion and Exclusion Criteria

The recruited respondents in this study were willing fully conscious cancer patients of both genders aged 18years and older on chemotherapy in Oncology Clinics of both hospitals that signed informed consent form after full explanation. Those excluded were under-aged cancer patients, the critically ill ones and those that declined to participate in the study.

Sample Size and Sampling Technique

Sample size for this study was calculated using Taro Yamane (1967) formula 'n = $N/(1+Ne^2)$' where: n = sample size; N = Total Population = 222; and e = Margin of error (MoE) set at 0.05 (5%)

Therefore, n = $222/ (1+222 [0.05]^2)$

n = 222/ (1+222 [0.0025])

n = 222/ (1 + 0.555)

n = 222/ 1.555 =142.7= 143 approximately

Attrition rate = 10% x 143 = 14.3 = 15 approximately

Therefore, Sample size 'n'= 143 + 15 = 158 respondents

A convenience sampling technique was therefore used to select the sample size needed for the study following the predetermined selection criteria parameters.

Instrumentation

A structured, researcher-designed, pre-tested questionnaire was used to elicit responses from the respondents based on stated objectives and literature review using free-choice and four-point Likert Scale ratings.

The questionnaire contained three sections based on the objectives of the study.

Section A: Socio-Demographic data of respondents consisting of 9 items,

Section B: Respondent's Knowledge of Cancer Self-management consisting of 9 items, and

Section C: Respondent's Symptom Self-management Strategies consisting of 20 items.

Each item was scored separately and mean calculated. Mean scores below 2.5 was poor self-management strategies, 2.5 was average, and above 2.5 was good.

Method of Data Collection

After obtaining participants' informed consent, questionnaires were self-administered to them by the researcher and two trained research assistants to collect primary data which was done one-on-one. 160 questionnaires were administered, but 159 were eventually retrieved, giving a 99.4% response rate.

Data Analysis

Data analysis was done using statistical package for social sciences (SPSS) version 23.0. Descriptive statistics such as frequency distributions, percentages and means were used to analyse the socio-demographic characteristics, knowledge and self-management strategies of the respondents' responses.

Ethical Consideration

The study received ethical approval from the Health Research Ethics Committees of both Babcock University (BUHREC 174/23); LASUTH (LREC/06/10/2189); and LUTH

(ADM/DSCST/HREC/APP/5703) as well as data collection permission from LASUTH Chief Medical Director and the Director of Nursing Services. Respondents were fully informed about the study's purpose, risk and benefits before signing the informed consent form and they had the freedom to withdraw at any stage. Privacy was ensured through anonymity, and confidentiality was maintained through usage of questionnaires that required no personal information. All ethical considerations including patient rights, informed consent, autonomy, beneficence, and non-maleficence were upheld before, during, and after the study.

RESULTS:

Socio-Demographic Characteristics of Respondents:

Findings from this study show that majority of the respondents (34.0%) were aged 58 - 67years while the least (1.3%) were aged 18 – 27years. This implies that cancer occurs more in the aged than the young. Also, there were more females (83.6%) than males (16.4%) in the study. Similarly, 66.7% were married, 20.8% were widows/widowers, 10.1% were single while 2.5% were divorcees. Furthermore, 48.4% had tertiary education, 33.3% had secondary school education, 10.7% had primary school education while 7.5% had none. Most of the respondents (44.7%) were self-employed, 23.3% were civil servants, 20.8% were retirees and 11.3% were unemployed. Monthly income of 32.7% of the respondents was less than N30,000 each, 27.7% earned between N30,000-N50,000, 21.4% earned N50,000-N100,000 while only 18.2% made more than N100,000 monthly.

Socio-demographic characteristics of the respondents are presented in Table 1 below:

Table 1: Socio-demographic characteristics of the respondents

Items	Category	Frequency (n=159)	Percentage (%)
Age:	18-27	2	1.3
	28-37	13	8.2
	38-47	29	18.2
	48-57	35	22.0
	58-67	54	34.0
	68 and above	26	16.4
Gender:	Male	26	16.4
	Female	133	83.6
Marital Status:	Single	16	10.1
	Married	106	66.7
	Divorced	4	2.5
	Widow/Widower	33	20.8
Religion:	Christianity	122	76.7
	Islam	36	22.6
	Others	1	0.6
Educational Level:	Primary School	17	10.7
	Secondary School	53	33.3
	University/Polytechnic	77	48.4
	No Formal Education	12	7.5
Occupation:	Employed	37	23.3
	Retiree	33	20.8
	Self-Employed	71	44.7
	Unemployed	18	11.3
Monthly Income:	<N30,000	52	32.7

	N30,000-50,000	44	22.7
	N50,000-N1000,000	34	21.4
	>N100,000	29	18.2
Type of Cancer:	Lung cancer	2	13
	Breast cancer	89	56.0
	Prostate cancer	9	5.7
	Ovarian cancer	5	3.1
	Uterine/Cervical	12	7.5
	Colorectal cancer	7	4.4
	Stomach cancer	4	2.5
	Testicular cancer	3	1.9
	Other cancers	28	17.6
Duration of Cancer Diagnosis:			
	1-3 years	125	78.6
	4-6 years	26	16.4
	7-9 years	2	1.3
	10 years and above	6	3.8

Source: Research Data

Respondents' Knowledge of Cancer Self-Management

On respondents' naming of abnormal uncontrolled growth of body cells, 62.9% of them correctly identified it as cancer whereas 23.3% labelled it a tumour. According to 64.2%, cancer affects children and adults, 19.5% said it affects only elderly people, 15.1% said it affects only females, while 1.3% said that it affects only males. 32.7% of the respondents related cancer to in-born genetic errors and family history of cancer, while 26.4% said physical and chemical carcinogens were responsible. 20.8% blamed it on harmful lifestyle habits including smoking and alcohol, while 20.1% blamed it on being overweight and inactive. Most respondents (47.8%) stated that cancer causes body pain and weight loss, 28.9% indicated fever and extreme weakness, 13.8% indicated nausea and/or vomiting while 9.4% others said that it causes anxiety related to fear of death.

On cancer management, half of the respondents (50.9%) opted for chemotherapy, 28.3% said surgery, 18.2% said radiotherapy, and 2.5% stated hormone-suppressive therapy. Other methods of cancer symptom management according to 26.4% include talking to doctors and accepting socio-spiritual support, 28.3% indicated taking medications and healthy diet, 25.2% indicated weight control and healthy lifestyle and 20.1% indicated moderate exercises.

Side-effects of chemotherapy according to 41.5% of the respondents include fatigue, 30.2% said loss of appetite and hair. Nausea and vomiting were indicated by 19.5%, and skin changes by 8.8% of the respondents. On socioeconomic effects of cancer treatment, 44.0% of the respondents mentioned financial stress of borrowing money to buy medication, 29.6% mentioned absenteeism from work due to hospital visits, 23.3% mentioned non-adherence to chemotherapy regimen due to expensive drugs, and 3.1% mentioned social isolation from friends due to tiredness and cancer stigma. Finally, the respondents listed the psychosocial effects of chemotherapy on human functioning. 45.9% said they felt sick (nauseated) and lost taste for food post-chemotherapy, 29.6% said they developed heat and occasional sweat beads and hair loss, 13.2% said they vomited a lot, got tired and skipped work after the medication, while 11.3% said they started losing their appetite for food and felt unhappy due to cancer stigmatisation.

Tables 2 and 2.1 below show knowledge level of respondents' cancer self-management.

Table 2: Respondents' Knowledge of Cancer Self-Management

Items	Frequency (n=159)	Percentage (%)
The abnormal uncontrolled growth of cells in the human body is called		
Cancer	100	62.9
Wound	11	6.9
Tumour	37	23.3
Lump	11	6.9
Who does Cancer often affect?		
Males only	2	1.3
Females only	24	15.1
Elderly people only	31	19.5
Children and Adults	102	64.2
The risk factors associated with cancer include		
Physical and Chemical irritants e.g. sun irradiation, pesticides	42	26.4
Overweight and Physical inactivity, lack of exercise	32	20.1
In-born genetic errors and family history of cancer/familial disposition	52	32.7
Bad lifestyle e.g. cigarette smoking, alcoholism	33	20.8
Effects of Cancer on human body include		
Nausea and/or Vomiting	22	13.8
Fever and extreme fatigue (body weakness)	46	28.9
Pain and weight loss	76	47.8
Psychosocial problems e.g. fear of death anxiety	15	9.4
Cancer can be treated using		
Chemotherapy	81	50.9
Surgery	45	28.3
Radiotherapy	29	18.2
Hormonal therapy, immunosuppression therapy	4	2.5
Other methods of taking care of cancer symptoms include;		
Self-management activities; Lifestyle changes; Maintaining moderate weight	40	25.2
Engaging in moderate physical exercises for 30 minutes daily	32	20.1
Talking problems over with healthcare givers; Accepting Social/Spiritual Support	42	26.4
Taking medications as prescribed; Taking balanced diet	45	28.3
Side effects of chemotherapy include		
Nausea and vomiting	31	19.5
Lethargy/Fatigue	66	41.5
Loss of appetite, hair and weight	48	30.2
Skin changes such as. darkening of nail bed	14	8.8
Socio-economic effects of cancer treatment include		
Man-hour loss due to frequent hospital visits	47	29.6
Borrowing money from relatives and friends to buy medication	70	44.0
Non-adherence to cancer chemotherapy treatment because the drugs are very expensive	37	23.3
Social isolation from friends because of tiredness and cancer stigma.	5	3.1
Psychosocial effects of chemotherapy on human functioning include:		
I feel nauseated and lose food taste when I take chemotherapy treatment	73	45.9
I develop heat, occasional sweat beads and loss of hair	47	29.6
I vomit a lot, get tired and skip going to work after taking chemotherapy	21	13.2
I lose appetite after vomiting and feel unhappy due to cancer stigmatization	18	11.3

Source: Research Data

Table 2.1: Level of Knowledge of Respondents' Cancer Self-Management

Level of Knowledge	Frequency(n=159)	Percentage (%)
Low	98	61.6
Average	35	22.0
High	26	16.4

Source: From Research Data

Generally, results in Table 2.1 further shows that 61.6% of the respondents had a low level of knowledge of cancer self-management, 22.0% had an average level of knowledge while only 16.4% of the respondents had a high level of knowledge of cancer self-management.

Respondents' Knowledge of Symptom Self-Management Strategies

Table 3 below shows the result of respondents' self-management strategies for dealing with the chemotherapy-induced symptoms. Regarding their nausea self-management strategies, the respondents disagreed with staying out of kitchen while cooking ($\bar{x}$ =2.15), taking cold foods to prevent nausea ($\bar{x}$ =1.85), taking ginger tea or the root ($\bar{x}$ =2.04), nor adding lemon juice while drinking water ($\bar{x}$ =2.30) but agreed that they took their anti-nausea drug (Lorazepam [Ativan]) to treat anticipatory nausea and vomiting ($\bar{x}$ =2.94). Generally the respondents displayed poor nausea self-management strategies ($\bar{x}$ =2.25).

With regards to their vomiting self-management strategies, the respondents agreed that they took their medication an hour before eating to suppress nausea and vomiting ($\bar{x}$ =2.81), ate small rather than large meals frequently ($\bar{x}$ =2.84) and sat to rest after food to prevent vomiting ($\bar{x}$ =2.86). However, they took spicy, fried or greasy fatty foods ($\bar{x}$ =2.21) and did not treat vomiting with salt-sugar solution ($\bar{x}$ =1.82) . In general,, the respondents had average vomiting self-management strategies ($\bar{x}$ =2.50).

With regards to their fatigue self-management strategies, the respondents did not take fluids to prevent dehydration and fatigue ($\bar{x}$ =2.16). However, they ate balanced diet and vegetables regularly to get adequate nutrition ($\bar{x}$ =3.37) and rested when tired ($\bar{x}$ =3.51). They ate frequently to gain more strength and energy ($\bar{x}$ =3.15), walked around the house for 30 minutes daily ($\bar{x}$ =2.96) and took warm baths to sleep when tired ($\bar{x}$ =2.86). Furthermore, they freely discussed their weakness and complaints with their doctors and nurses for professional counselling and necessary investigation ($\bar{x}$ =3.15), observed hourly siesta in the afternoons but took sleeping pills occasionally to sleep ($\bar{x}$ =2.70). However they didn't keep activity log to monitor their fatigue patterns ($\bar{x}$ =2.07) but agreed doing their house chores when strong enough and sought family members' assistance as necessary ($\bar{x}$ =2.81). Generally, the respondents had a good level of fatigue self-management strategies ($\bar{x}$ =2.87) but overall the respondents had good self-management strategies with ($\bar{x}$=2.63). These results are displayed in table 3 below:

Table 3: Respondents' Nausea, Vomiting and Fatigue Self-Management Strategies

SA=Strongly Agree A=Agree D=Disagree SD=Strongly Disagree

Items	SA (%)	A (%)	D (%)	SD (%)	Mean ($\bar{x}$)
Nausea Self-Management Strategies					
I stay away from kitchen during food preparation to avoid inhaling odour of hot food being prepared.	16 (10.1)	43 (27.0)	49 (30.8)	51 (32.1)	2.15
I take cold foods which emit no odour to prevent nausea.	6 (3.8)	18 (11.3)	81 (50.9)	54 (34.0)	1.85
I take ginger tea and chew the ginger root to treat nausea.	11 (6.9)	41 (25.8)	50 (31.4)	57 (35.8)	2.04

I squeeze lemon juice in my drinking water to make it more palatable and prevent nausea.	18 (11.3)	49 (30.8)	54 (34.0)	38 (23.9)	2.30
I take my anti-nausea drug (Lorazepam[Ativan]) as prescribed to treat anticipatory nausea and vomiting	61 (38.4)	55 (34.6)	15 (9.4)	28 (17.6)	2.94
Average Mean					**2.25**
Vomiting Self-Management Strategies					
I take my medication an hour before eating to suppress nausea and vomiting.	49 (30.8)	58 (36.5)	24 (15.1)	28 (17.6)	2.81
I eat small rather than large meals frequently during the day to prevent stomach fullness and vomiting.	35 (22.0)	81 (50.9)	25 (15.7)	18 (11.3)	2.84
I avoid activity immediately after eating food and rest in a sitting position to prevent vomiting.	35 (22.0)	85 (53.5)	20 12.6	19 11.9	2.86
I do not take spicy, fried or greasy fatty foods to prevent vomiting	12 (7.5)	53 (33.3)	51 (32.1)	43 (27.0)	2.21
I take salt-sugar solution to treat vomiting as tolerated	10 (6.3)	17 (10.7)	66 (41.5)	66 (41.5)	1.82
Average Mean					**2.50**
Fatigue Self-Management Strategies					
I drink ice cold fluids in between meals to keep me well hydrated and prevent dryness of my skin and fatigue.	20 (12.6)	39 (24.5)	47 (29.6)	53 (33.3)	2.16
I eat balanced diet as tolerated and vegetables regularly to get adequate nutrition.	86 (54.1)	51 (32.1)	17 (10.7)	5 (3.1)	3.37
I take time to rest when very tired.	89 (56.0)	63 (39.6)	6 (3.8)	1 (0.6)	3.51
I eat at frequent intervals to gain strength and energy.	59 (37.1)	68 (42.8)	29 (18.2)	3 (1.9)	3.15
I engage in moderate physical exercises such as walking around the house for 30 minutes daily.	48 (30.2)	69 (43.4)	29 (18.2)	13 (8.2)	2.96
I take warm bath to enable me sleep when tired.	46 (28.9)	56 (35.2)	46 (28.9)	11 (6.9)	2.86
I discuss my weakness and other complaints with my Doctor and Nurses for professional counselling and necessary investigation	59 (37.1)	74 (46.5)	17 (10.7)	9 (5.7)	3.15
I observe siesta for one hour in the afternoons or take prescribed sleeping pills occasionally to sleep.	28 (17.6)	70 (44.0)	46 (28.9)	15 (9.4)	2.70
I keep an Activity Log that helps me monitor my fatigue patterns.	14 (8.8)	32 (20.1)	64 (40.3)	49 (30.8)	2.07
I do my house chores when I feel strong enough and seek assistance of family members when necessary.	37 (23.3)	77 (48.4)	23 (14.5)	22 (13.8)	2.81
Average Mean					**2.87**
Average Mean of all three sub-sections					**2.63**

**** The criterion for decision was 2.5. Therefore, every response with a mean of 2.5 and above is positive/accepted and those that are less are negative/rejected. Average mean of less than 2.5 = poor level of self-management strategies; 2.5 = fair/average; and above 2.5 = good level of self-management strategies.**

DISCUSSION OF FINDINGS

This study revealed that respondents with cancer aged 58-67 years (34.0%) were more while the least was 1.3% in age group 18-27 years. This is in line with the study by Loerzel (2018) of 100 older cancer adults aged 65 years and above at UF Health Cancer Centre, Orlando, Florida that were ‘‘at high-risk for cancer-related symptoms but often accepted them as inevitable.’’ The National Cancer Institute [NCI], (2021) Surveillance, Epidemiology, and End Results (SEER) Programme also reported that people from age 66 years are more prone to cancer due to increasing age. Also, more females (83.6%) than males (16.4%) had cancer in this study. However, this contradicts the result of Fatiregun et al., (2020) that reported more males (54.0%) than females (46.0%) cancer patients in their 2008-2019 study of cancer mortality pattern in LASUTH, Ikeja, Lagos State. Furthermore, majority (78.6%) of respondents in this study had their cancer diagnosed within the last 1-3 years. This portends an increasing incidence of cancer according to WHO, (2022) factsheet report, and this therefore behoves cancer patients to be actively involved in symptom self-management practices to achieve improved health and longevity (WHO, 2022).

The findings from the study on respondents' knowledge of cancer self-management showed that most of the respondents (62.9%) correctly identified cancer as abnormal uncontrolled growth of cells in the human body. Ayalew et al. (2022) affirmed similar findings in their study among women with breast cancer receiving chemotherapy. This indicates an understanding of the basic concept of cancer among the respondents which is a foundation for them recognizing the seriousness of the disease and the need for appropriate management strategies. However, 23.3% of the respondents incorrectly identified cancer as a tumour, which could be due to a misconception or lack of clarity regarding the distinction between the terms "cancer" and "tumour." In this study also, 64.2% of the respondents believed that cancer affects both children and adults while 19.5% of them, 15.1%, and another 1.3% erroneously believed that cancer exclusively affects only elderly people, only females and only males respectively. In contrast however, the study by Sadoh, Osime, Nwaneri, Ogboghodo, Co & Oviawe (2021) reported that majority of their respondents attributed cancer exclusively to only females and that it didn't affect those younger than 20 years old. This could be due to a misconception regarding the demographic groups at risk of cancer, which could further lead to lack of awareness of the disease among other age groups or genders, thereby affecting early detection. Enlightenment campaigns should aim to dispel these misconceptions among the patients and promote a more inclusive understanding of cancer demographics.

Furthermore, the respondents in this study correctly attributed cancer to genetics, family history and physical and chemical irritants. This shows an awareness of established risk factors among the participants. This understanding could motivate people to undergo genetic testing or make lifestyle changes to reduce their risk. However, it is important to address the relatively lower awareness of risk factors like lifestyle choices and weight management displayed by the respondents through targeted educational initiatives. Pain and weight loss identified as common effects of cancer by the respondents indicate knowledge of the physical effects of cancer. These factors were also reported by the respondents in Hatem, Ghanem, Kellen, AlZaim & Goossens (2021) study. However, the relatively lower awareness of other effects like fatigue, nausea, and psychosocial problems suggests a need for better education on the impact of cancer on individuals' well-being to help them seek appropriate medical attention, manage symptoms, and seek psychosocial support.

Additionally, half of the respondents correctly identified chemotherapy as a treatment option for cancer. This indicates awareness of this treatment modality which they were already undergoing. However, the relatively lower awareness of other treatment options such as surgery and radiotherapy suggests the need to enhance their knowledge about various types of treatment available to empower them to make informed decisions in consultation with healthcare providers. The respondents also recognized the importance of talking to healthcare providers, accepting social/spiritual support, adhering to medication and maintaining a balanced diet as methods of symptom self-management. In their study, Frenkel & Cohen (2014) emphasized the importance of healthcare personnel communicating with their patients about the 'potentials of complementary and integrative medicine in cancer care'. The respondents in this study were also aware of the financial burden associated with cancer treatment, including borrowing money and medication non-adherence due to expensive drugs. This finding 'demonstrates the challenges faced by patients on chemotherapy as high cost of cancer care can exacerbate financial stress, limit access to essential medications, and hinder treatment adherence' as pointed out by Hatem et al, (2021) in their study that 'financial problem is one of the most frequent barriers to seeking or continuing timely care by cancer patients'. Overall, Table 2.1 above shows that majority (61.6%) of the respondents

exhibited low knowledge while that of 22.0% was average, and only 16.4% had high knowledge of cancer self-management. Whereas, in Sikaiye and Sowunmi 2019 study, it was reported that male respondents than females had higher knowledge of post-chemotherapy symptoms than females just as university graduates were compared with other school leavers.

On respondents' post-chemotherapy symptom self-management strategies used, it was observed that respondents had poor self-management strategies for nausea. They didn't implement several common nausea prevention strategies, such as staying away from the kitchen during food preparation, taking cold odour-free foods, using ginger tea or ginger root, nor adding lemon juice to their drinking water but they took their prescribed anti-nausea medication as directed. In contrast, female Pakistani cancer patients on chemotherapy in Sarwar, Ramos, Elahi, Yousaf, Badar, & Baka (2020) study utilized different measures such as 'pharmacological management', 'fluid therapy', applying 'physical and cognitive distraction', and 'relaxation through prayers' to control chemotherapy-induced nausea and vomiting and improve their wellbeing. This finding could be due to the patients in the current study relying more on western medication than non-pharmacological means of care. They may also not have been well-informed about effective nausea management techniques. This reveals that healthcare providers need to give cancer patients adequate evidence-based information and support on strategies to alleviate the nausea associated with cancer treatment.

The self-management strategies for vomiting demonstrated by the respondents was fair, and these include taking their medication prior eating, taking small meals frequently, and sitting to rest after eating. However, they never took salt-sugar solution after vomiting but indulged in taking spicy, fried, and greasy fatty foods. This could be due to the use of different oils and spices in preparing Nigerian delicacies. This is in contrast with the findings of Loerzel, Clochesy & Geddie, (2020) where the respondents in their study frequently used dietary intervention such as eating small meals and eating bland or dry foods as strategies to deal with post-chemotherapy nausea and vomiting. These results show that the respondents recognized and implemented some effective strategies to manage vomiting but healthcare providers and family members still need to emphasize the importance of dietary adjustments and avoidance of spicy and fried foods to minimize vomiting triggers. This understanding will help cancer patients make informed decisions regarding healthy dietary practices to reduce chemotherapy-induced vomiting.

Notwithstanding, the respondents reported a mix of effective and suboptimal self-management strategies for fatigue. They agreed that they ate balanced diet, rested when tired, ate at frequent intervals, engaged in moderate physical exercises, and discussed their concerns with healthcare professionals. Similar fatigue management strategies were also reported by the respondents in Linder, Stegenga, Erickson, Ameringer, Newman, Chiu, & Macpherson (2019) study which shows that they were aware of some strategies for managing fatigue through proper nutrition, rest, and sleep. However, the findings also showed that they neither drank cold fluids to prevent fatigue nor kept an activity log to monitor fatigue patterns. This demonstrates a need for healthcare providers to enlighten patients on the importance of constant hydration and monitoring of their energy levels through an activity log to identify triggers and make adjustments to their daily routines so they don't get tired easily. Empowering patients with knowledge and skills to manage chemotherapy-induced side effects will enhance their health and overall well-being during chemotherapy treatment.

CONCLUSION

In conclusion, this study provides information on the knowledge and symptom self-management practices used by cancer patients receiving chemotherapy in the two teaching

hospitals in Lagos State, Nigeria. The results showed that majority of the respondents had average knowledge of cancer self-management. This requires giving cancer patients on chemotherapy proper information on their diagnosis, treatment options, potential side effects, and self-management practices. Reliable counselling and culturally relevant information given before, during and after chemotherapy and ways of accessing support can help cancer patients feel more capable of controlling their cancer and chemotherapy-induced symptoms to achieve improved health.

RECOMMENDATION

Based on the findings of this study, cancer patients need more enlightenment on self-care measures and support to reduce the effects of cancer and side-effects of chemotherapy on their overall health. Since Oncology healthcare professionals are to assist cancer patients in achieving this goal, the following recommendations are hereby made:

i. Oncology Doctors and Nurses should enlighten cancer patients about causes, effects and various treatment options available for cancer care
ii. Comprehensive information should be given to the patients on various side-effects of chemotherapy such as nausea, vomiting, fatigue, alopecia and loss of libido among others before its commencement.
iii. Oncology Nurses should educate cancer patients on various health-improving self-management practices to reduce chemotherapy nausea, vomiting and fatigue symptoms.
iv. Oncology professionals can further give suggestions on cancer social support groups and Non-Governmental Organizations that render assistance to cancer patients during the course of their illness.

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