

(RESEARCH ARTICLE)



Investigation into quality of life of patient receiving chemotherapeutic regimen in selected hospital in South East Nigeria: A pilot study

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Abstract

In 2008 approximately 12.7million cancers were diagnosed and 7.6million people died due to cancer worldwide. People living with cancer experience a variety of reactions as such quality of life and chemotherapy for cancer patients and its associated side effects are topical issues in oncology practice. A survey was conducted among 264 breast cancer patients selected by Purposive sampling technique, the instrument for the study was (EORTC QLQ - C30 & BR 23). This instrument was used to determine the quality of life of cancer patients and breast cancer in particular. It has a total of 53 items. The first 30 items (i.e. EORTC QLQ - C30), bothers on patients perception of health, the last 23 items which are numbered 31 – 53 (i.e. BR 23). QOL of breast cancer patients using EORTC QLQ30-BR23, revealed that they have trouble taking a long walk, they have you had pains, they need to rest with a mean of 1.9, 2.7 and 2.8 respectively. Also, 15.9% of the respondents had an excellent quality of life in the past week, 78.0% have good quality of life in the past week, it also further revealed that 14.8% had an overall excellent quality of life during the past week. Also, findings revealed that most of the respondents 57.95% had a very bad/poor QOL. Furthermore, findings further revealed that the patients' perception of overall health past weeks was good, 206(78.03%). Cancer patients experienced many adverse reactions that affected their QOL. There is a need to develop strategies for managing their adverse event resulting from interventions for cancer, thus improving the patient quality of life.

Keywords: Breast Cancer; Quality of life; Adverse reaction; Past week; Perception

1. Introduction

Cancer is a prevalent chronic disease in China and worldwide, and chemotherapy serves as the primary treatment for cancer patients [1]. The global demand for first-line chemotherapy is projected to increase by over 50% between 2018 and 2040, with China having the highest demand, as approximately 4.2 million new patients will require chemotherapy [2]. However, chemotherapy-induced nausea and vomiting (CINV) remains a common adverse reaction, occurring in approximately 50% of patients undergoing anticancer therapies [3].

Quality of life and chemotherapy for cancer patients and its associated side effects, and their management are topical issues in oncology practice. They are matters of discourse in various parlances because they are intertwined with cumulative effects that impact the health of patients. Quality of life which has to do with feelings or perceptions of people about current experiences and situations in their lives significantly affects wellbeing in general. The way an individual considers his or her health, comfort, or happiness in relation to interventions and socio-cultural contexts influences actions and decisions that are eventually taken. In other words, a feeling about one's life (which is conceptually referred to as quality of life, QOL) is a fundamental concept in every aspect of human existence. Based on its essence, various attempts are made to describe, define or represent the concept in an adequate manner. As [4] pointed out, quality of life is a highly subjective measure of happiness that is an essential component of many financial decisions. Quality of life

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factors vary depending on personal preferences but most often include an individual's material situation, health, safety, family life, satisfaction with work, and free time. There is no single and unified definition of the quality of life but many that seek to describe this phenomenon as well as possible. The [5] Oxford Dictionary (2023) defines quality of life as the standard of health, comfort, and happiness experienced by an individual or group. It is also captured as an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns" (6). These definitions of QOL show that it is a concept that has links with all spheres of mankind be it social, financial, illness or treatment. It also implies that the meaning of quality of life cannot be the same for everybody. Consequent on the above, quality of Life is an issue that is often investigated in health care, its interest is because QOL is associated with various health variables, and also an important outcome of health conditions. For patients, the factors affecting their QOL are largely case-dependent. Among cancer patients however, factors that negatively impact their QOL include the disease itself, the adopted treatment and the duration of illness [7]. Search for the meaning of life after a diagnosis of cancer is made also another factor that positively affects the quality of life of cancer patients.

Therefore, for many patients suffering from chronic illnesses and cancer in particular, QOL before, during and after a course of treatment is very critical to them, their families, and even the care givers [8]. QOL is critical because it has a causal relationship with adherence to treatment whereby patients who report satisfactory quality of life scores tend to better adhere to treatment [9]. A strong correlation between QOL and patient's compliance to medication is also reported in [10]. These reports imply that patients may take up treatment more satisfactorily in order to have better outcomes if QOL is optimal and vice versa. Therefore, it is advocated that issues which patients and clinicians consider important or capable of impacting quality of life of patients should be carefully considered in deciding treatments [11].

The things that interfere or affect quality of life are diverse. In general [12] identified six things that affect QOL which include: how well one eats, the kind of people surrounding a person, the level of meaningfully engaging in activities, the ability to move about freely, the desire to learn and the financial soundness of an individual. For patients, the factors affecting their QOL are largely case-dependent. Among cancer patients however, factors that negatively impact their QOL include the disease itself, the adopted treatment and the duration of illness [13].

Breast cancer like other types of cancers has various treatment modalities including antineoplastic agents which is regarded as the main therapy for breast cancer and has greatly improved the survival rates of the sufferers [14]. However, chemotherapy is associated with various discomforting side effects that patients have to contend with. Such side effects are nausea and vomiting, hair loss, fatigue, among others. The trouble from side effects of chemotherapy can hamper the quality of life of breast cancer patients where it affected their emotional functioning, sexual functioning, and financial difficulties [15]. The feeling of poor quality of life among the patients becomes more heightened if the patients do not know the know-how that: chemotherapy-related side effects have the tendency to reduce their quality of life. Based on the foregoing, the researcher considered it invaluable to Investigate into the Quality of Life of patient receiving Chemotherapeutic regimen in selected Hospital in South East Nigeria.

2. Material and methods

2.1. Study design and setting:

This study was a descriptive cross-sectional study and was conducted at South-East Nigeria. The institutions selected for the study were; Imo State University Teaching Hospital Orlu, Abia State University Teaching Hospital, Aba and Nnamdi Azikiwe University Teaching Hospital Nnewi Anambra State, from January 2023 to April 2023.

2.2. Study participant and sampling

Two hundred and sixty four breast cancer patient who were female, diagnosed with breast cancer and receiving chemotherapy in the selected hospitals, who were visiting oncology outpatient department were recruited after giving explanation about the study. Written informed consent was obtained from each study participant and anonymity and confidentiality of each study participant was maintained during the study. Ethical approval for this study was obtained from the Institutional Ethical Committee (IMSU/COM/REC/1). Cancer patient diagnosed with breast cancer but not on chemotherapy, who were too sick to participate and not willing to be excluded from the study.

2.3. Data collection tool and technique

Data collection tools consist of a total of 58 items which were included in a total of 5 sections. Section-Ia included QOL of breast cancer patients using "The European Organization for research and treatment of cancer quality of life questionnaire core – 30 and Breast - 23 (EORTC QLQ30-BR23), section Ib included QOL of breast cancer patients using

EORTC QLQ30-BR23, while section 2 included the Past Week Quality of Life, also section 3 included Quality of life among breast cancer patients in selected health facilities in Southeast Nigeria. And section 3a involved Patients perception of overall health past weeks. Scoring mean of QOL of breast cancer patients using EORTC QLQ30-BR23, and QOL of breast cancer patients using EORTC QLQ30-BR23 ranged from 1.8- 3.0 respectively. Quality of life among breast cancer patients in selected health facilities in Southeast Nigeria was overall rather nil as non had a good quality of life.

2.4. Data analysis

Data analysis was done using IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp. IBM Corp. Written informed consent was obtained from each study participant after proper explanation about the study. The questionnaires were available in English language alone. The interviewees were assured of the confidentiality of the data and that this would have no impact on their treatment. QOL of breast cancer patients using EORTC QLQ30-BR23 and QOL of breast cancer patients using EORTC QLQ30-BR23 respectively was analyzed using mean, the Past Week Quality of Life, Quality of life among breast cancer patients in selected health facilities in Southeast Nigeria and Patients perception of overall health past weeks respectively were analyzed using percentages.

3. Results

The quality of life which was measured using EORTC QLQ30-BR23 on *table 1a* revealed that they have trouble taking a long walk, they have you had pains, they need to rest, they have trouble sleeping, they have felt weak, they have lacked appetite, they have felt nauseated, they have vomited, they felt tired, pain interfere with their daily activities, they have had difficulty in concentrating on things, like reading a newspaper or watching television, they worry, they feel irritable, depressed, there physical condition or medical treatment have interfered with their family life, there physical condition or medical treatment interfered with their social activities and their physical condition or medical treatment has caused them financial difficulties, with a mean of 1.9, 2.7 and 2.8 respectively.

The quality of life which was measured using EORTC QLQ30-BR23 on *table 1b* further revealed that during the past weeks; food and drink taste different than usual, they lost hair, they were upset by the loss of their hair, they felt ill or unwell, they had headaches, they felt physically less attractive as a result of the disease or treatment, they felt less feminine as a result of the disease or treatment, they have been dissatisfied with their body, they were worried about their health in the future, they have had pains in the area of affected breast, the area of affected breast was swollen, the area of affected breast was oversensitive and they have had skin problems on or in the area of your affected breast (e.g., itchy, dry, flaky) during the past weeks, with a mean of 2.5, 2.5, 2.8, 2.9, 2.0 respectively

Table 1a QOL of breast cancer patients using EORTC QLQ30-BR23

During the past week	Responses (%)				Mean
	Not at all	A little	Quite a bit	Very much	
Do you have any trouble doing strenuous activities, like carrying a heavy shopping bag or a suitcase?	97 (36.7)	99(37.5)	50 (18.4)	18 (6.2)	1.9
Do you have any trouble taking a long walk?	34 (12.9)	71(27.0)	107 (40.7)	51 (19.4)	2.7
Do you have any trouble taking a short walk outside of the house?	127(48.1)	79(29.9)	40 (15.5)	18 (6.8)	1.8
Do you need to stay in bed or a chair during the day?	63 (23.9)	82(31.1)	75 (28.4)	44 (16.7)	2.4
Do you need help with eating, dressing, washing yourself or using the toilet?	115(43.6)	65(48.4)	54 (20.5)	30 (11.4)	2.0
Were you limited in doing either your work or other daily activities?	56 (21.2)	91(34.5)	81 (30.7)	36 (13.6)	2.4
Were you limited in pursuing your hobbies or other leisure time activities?	85 (32.2)	75(28.4)	66 (25)	38 (14.4)	2.2
Were you short breath?	62 (23.5)	83(31.4)	73 (27.7)	46 (17.4)	2.4
Have you had pains?	34 (12.9)	113(42.8)	47 (17.8)	70 (26.5)	2.6

Did you need to rest?	33 (12.5)	64 (24.2)	75 (28.4)	92 (34.9)	2.9
Did you have trouble sleeping?	35 (13.3)	77 (29.2)	83 (31.4)	69 (26.1)	2.7
Have you felt weak?	38 (14.5)	93 (35.2)	72 (27.3)	61 (23.1)	2.6
Have you lacked appetite?	23 (8.7)	76 (28.8)	91 (34.5)	74 (28.0)	2.8
Have you felt nauseated?	45 (17.1)	87 (33.0)	80 (30.3)	52 (19.7)	2.5
Have you vomited?	43 (16.3)	96 (36.4)	80 (30.3)	45 (17.1)	2.5
Have you been constipated?	74 (28.0)	70 (26.5)	76 (28.8)	44 (16.7)	2.3
Have you had diarrhea?	60 (22.8)	83 (31.6)	77 (29.3)	43 (16.4)	2.3
Were you tired?	30 (11.4)	84 (32.0)	80 (30.4)	69 (26.2)	2.7
Did pain interfere with your daily activities?	43 (16.3)	82 (31.1)	79 (29.9)	60 (22.7)	2.6
Have you had difficulty in concentrating on things, like reading a newspaper or watching television?	56 (21.2)	80 (30.3)	72 (27.3)	56 (21.2)	2.5
Did you feel tense?	92 (34.9)	56 (21.2)	46 (17.4)	70 (26.5)	2.4
Did you worry?	16 (6.1)	59 (22.4)	97 (36.7)	92 (34.9)	3.0
Did you feel irritable?	60 (22.7)	62 (23.5)	95 (36.0)	47 (17.8)	2.5
Did you feel depressed?	31 (11.7)	62 (23.5)	78 (29.6)	93 (35.2)	2.9
Have you had difficulty remembering things?	56 (21.3)	89 (33.8)	64 (24.3)	54 (20.5)	2.4
Has your physical condition or medical treatment interfered with your family life?	55 (20.8)	72 (27.3)	82 (31.1)	55 (20.3)	2.5
Has your physical condition or medical treatment interfered with your social activities?	48 (18.2)	80 (30.3)	74 (28.0)	62 (23.5)	2.6
Has your physical condition or medical treatment caused you financial difficulties?	41 (15.5)	55 (20.8)	83 (31.4)	85 (32.2)	2.8

Table 1b QOL of breast cancer patients using EORTC QLQ30-BR23 (Contd)

During the past week:	Responses (%)				Mean
	Not at all	A little	Quite a bit	Very much	
Did you have a dry mouth?	104(39.4)	81(30.7)	48 (18.2)	31 (11.4)	2.0
Did food and drink taste different than usual?	37 (14.0)	89(33.7)	116(43.9)	22 (8.3)	2.5
Were your eyes painful, irritated or watery?	69 (26.1)	86(32.6)	67 (25.4)	42 (15.9)	2.3
Have you lost any hair?	61 (23.1)	71(26.9)	62 (23.5)	70 (26.5)	2.5
Answer this question only if you had any hair loss: Were you upset by the loss of your hair?	38 (14.4)	66(25.0)	76 (28.8)	84 (31.8)	2.8
Did you feel ill or unwell?	24 (9.1)	74(28.0)	82 (31.1)	84 (31.8)	2.9
Did you have flushes?	109(41.3)	85(32.2)	51 (19.3)	19 (7.2)	1.9
Did you have headaches?	18 (6.8)	90(34.1)	103(39.0)	53 (20.1)	2.7
Have you felt physically less attractive as a result of your disease or treatment?	49 (18.6)	79(29.9)	95 (40.0)	41 (15.5)	2.5

Have you been feeling less feminine as a result of your disease or treatment?	38 (14.4)	68(25.8)	105(39.8)	53 (20.1)	2.7
Did you find it difficult to look at yourself naked?	73 (27.7)	77(29.2)	70 (26.5)	44 (16.7)	2.3
Have you been dissatisfied with your body?	49 (18.6)	70(26.5)	83 (31.4)	62 (23.5)	2.6
Were you worried about your health in the future?	34 (12.9)	74(28.0)	60 (22.7)	96 (36.4)	2.8
During the past week					
To what extent were you interested in sex?	103(39.0)	89(33.7)	44 (16.7)	28 (10.6)	2.0
To what extent were you sexually active? (with or without intercourse)	49 (18.6)	85(32.2)	113(42.8)	17 (6.4)	2.4
Answer this question only if you have been sexually active: To what extent was sex enjoyable for you?	67 (25.4)	86(32.6)	53 (20.1)	58 (22.0)	2.4
During the past week					
Did you have any pain in your arm or shoulder?	89 (33.7)	98(37.1)	49 (18.6)	28 (10.6)	2.1
Did you have a swollen arm or hand?	58 (22.0)	78(30.0)	110(41.7)	18 (6.8)	2.3
Was it difficult to raise your arm or to move it sideways?	68 (25.8)	90(34.1)	72 (27.3)	34 (18.9)	2.0
Have you had any pain in the area of your affected breast?	33 (12.5)	92(34.9)	87 (33.0)	52 (19.7)	2.6
Was the area of your affected breast swollen?	48 (18.2)	82(31.1)	69 (26.1)	65 (24.6)	2.6
Was the area of your affected breast oversensitive	44 (16.7)	81(30.7)	85 (32.2)	54 (20.5)	2.6
Have you had skin problems on or in the area of your affected breast (e.g., itchy, dry, flaky)?	38 (14.4)	69(26.1)	91 (34.5)	66 (25.0)	2.7

The quality of life on *table 2* further revealed that 15.9% of the respondents have an excellent quality of life in the past week, 78.0% have good quality of life in the past week while 6.1% have very poor quality of life in the past week. It further revealed that 14.8% had an overall quality of to be excellent during the past week, 75.4% rated theirs to be good while 9.9% rated there's to be very poor.

Table 2 Past Week Quality of Life

During the past week	Rating (%)		
	Very poor (1-2)	Good (3-5)	Excellent (6-7)
How would you rate your overall health during the past week?	16 (6.1)	206 (78.0)	42 (15.9)
How would you rate your overall quality of life during the past weeks?	26 (9.9)	199 (75.4)	39 (14.8)

The *table 3* below revealed that most of the respondents 57.95% have a Very Bad/Poor QOL while 42.05% have bad/poor QOL.

Table 3 Quality of life among breast cancer patients in selected health facilities in Southeast Nigeria

Quality of life	Frequency	Percentage (%)
Good QOL	-	-
Bad/Poor QOL	111	42.05
Very Bad/Poor QOL	153	57.95
Total	264	100.00

The analysis on *table 3a* further revealed that the patients' perception of overall health past weeks was good. 206(78.03%) patients perceive their overall health past weeks to be good, 42(15.91%) perceive theirs to be excellent while 16(6.06%) perceive theirs to be very poor.

Table 3a Patients perception of overall health past weeks

Overall Health rating	Frequency	Percentage (%)
Excellent	42	15.91
Good	206	78.03
Very Poor	16	6.06
Total	264	100.00

4. Discussion

The quality of life measured using EORTC QLQ30-BR23 revealed that they have trouble taking a long walk, they have you had pains, they need to rest, they have trouble sleeping, they have felt weak, they have lacked appetite, they have felt nauseated, they have vomited, they felt tired, pain interfere with their daily activities, they have had difficulty in concentrating on things, like reading a newspaper or watching television, and so on. The quality of life which was measured using EORTC QLQ30-BR23 further revealed that during the past weeks food and drink taste different than usual, they lost hair, they were upset by the loss of their hair, they felt ill or unwell, and so on, this was possibly due to the untoward effect of cytotoxic agents. This disagrees to an extent with the findings of [16], carried out a study on assessing health related quality of life of breast cancer patients for chemotherapy in South-Eastern Nigeria using descriptive survey design. The study found out that the respondents reported better quality in the pre-chemotherapy than the follow-up, all the other functional items showed better QOL among the follow-up group and it reached statistically significance difference with role functioning ($p < 0.007$) and global health /QOL ($p < 0.08$).

The quality of life further revealed that 15.9% of the respondents had excellent quality of life in the past week, 78.0% have good quality of life in the past week. This may possibly due to the fact that the patient had foreknowledge of anti-neoplastic agent's side effect and as such were prepared. This accede with the findings of [16] who further found out that symptom scales and single item scales recorded better HRQOL for the follow-up except with diarrhoea, and financial difficulty which showed better for the pre-chemotherapy group. Respondents in the follow-up group reported better HRQOL in the body image, sexual functioning, arm symptoms, breast symptoms and a significant statistical mean difference in future perspective ($p < 0.037$). Moreover, the findings in the present study is contrary to the findings of [17] and his team unraveled that Adjuvant chemotherapy has demonstrated efficacy in the management of ovarian and breast cancers. In addition to physical side-effects, a subset of women receiving chemotherapy will experience significant cognitive dysfunction that adversely affects their perceived quality of life. Variables including disease response, treatment indication and extent of the patient's social support also influence quality-of-life rating.

The study further showed that the patients' perception of overall health past weeks was good. 206(78.03%) patients perceive their overall health past weeks to be good. 42(15.91%) perceive theirs to be excellent while 16(6.06%) perceive theirs to be very poor. This may be due to economic reasons. This is contrary to the findings of [18], they reported the overall QOL of the cancer patients during the past week was poor, i.e., the median score was 3 and the IQR was 2–4, and the overall physical condition of the cancer patients during that week was poor, i.e., the median score was 4 and the IQR was 3–4 from 1 to 10 rating scale. The difference may perhaps be that participants felt that they were physically performing very less. Many authors reported that side effects of cancer treatment affect the patient's QOL and depends on the individual circumstances, type of cancer, and its treatment [19- 21].

With Regards to the quality of life among breast cancer patients in selected health facilities in Southeast Nigeria: it was revealed that most of the respondents 57.95% have a Very Bad/Poor QOL, while 42.05% have bad/poor QOL. None responded to a good quality of life (table 3), this findings corroborates with [22] Alam et al., 2020 in their study reported that: Among 279 participants, 14(5.02%) had high QoL, 35(12.54%) had average QoL, 150(53.76%) had low QoL, and remaining 80(28.67%) had very low QoL. The prevalence of severe malnutrition was 12.5% and 43.7% of patients had poor performance status. The similarity may be that they quit their business or job due to the debilitating effect of the disease, previous studies have reported that cancer survivors have a 1.4 times higher risk of unemployment when compared to healthy controls [23]. Furthermore, it has been observed across studies that between 26.0% and 53.0% of cancer survivors either lose their job or quit their occupation during or after the treatment [24]. Moreover, the result is

also similar to the findings of [25] Ramasubbu et al., 2020 which has it that the overall mean score of quality of life (QoL) was 61.933 ± 5.85502 . (Low quality) the domains of functional well-being and emotional well-being were most negatively affected after cancer chemotherapy. Education (illiteracy) and occupation (unemployment) were negatively associated with overall quality of life (QoL) of cancer patients on chemotherapy. Adverse drug reactions due to cancer chemotherapy negatively affect the quality of life (QoL) of cancer patients. Education (illiteracy) affects social well-being domain of cancer patients. Working in the government/private sector has a positive impact on functional well-being domain of quality of life (QoL).

5. Conclusion

Given the rising incidence of cancer and associated issues, people living with cancer experience a variety of reactions as such quality of life and chemotherapy for cancer patients and its associated side effects are topical issues in oncology practice. It becomes imperative that red flag symptoms of antineoplastic agent needs to be given utmost attention, cancer care programs should not only involve availability of drugs but their quality of life and wellbeing need to be kept in check at periodically. There is a need to develop more strategies for managing their adverse event resulting from interventions for cancer, thus improving the patient quality of life.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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