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Symptom Experiences and Effect on Functional Status among Breast Cancer Women Receiving Chemotherapy at Hwurh, Hawassa, SNNPR, Ethiopia

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Abstract

Introduction: Breast cancer is the top cancer in women both in the developed and the developing world. The incidence of breast cancer is increasing in the developing world due to increase life expectancy, increase urbanization and adoption of western lifestyles. Therefore, early detection in order to improve breast cancer outcome and survival remains the cornerstone of breast cancer control.

Objective: The main intention of this study is to determine the symptom experiences and functional status among women diagnosed with breast cancer and receiving chemotherapy treatment.

Methodology: The study was conducted by using descriptive study design in Hawassa Referral health facilities from Mar/2017 to May/2017. Before data collection ethical clearance letter was obtained from Hawassa University institutional review board office. Purposive sampling technique was used to collect the data. Data collection was done using structured questionnaire including patient information, symptom experience questionnaire and EGOC functional status Questionnaire were used. The analysis were made by using SPSS version 20.0.

Results: Majority of the respondents 56 (37.3%) were in the age group of 31-40 years followed by 40 (26.7%) are identified in the age group of more than 51 years. With regard to religion, majority of the respondents 66 (44%) are Orthodox and 53 (35.3%) of respondents belongs to Oromo in their ethnicity. Focusing on the duration of the illness, majority of the respondents 108 (72%) are diagnosed within last 4 years and 98 (65.3%) of the women has surgery for their breast and receiving chemotherapy. Almost all, 146 (97.3%) of the respondents have care giver and 132 (88%) of the respondents are identified with presence of additional illness like DVT, DM preumonia, etc., nearly third, 55 (36%) were asymptomatic. with regard to their functional status 46 (30.7%) of the respondents were symptomatic but completely ambulatory followed.

Conclusion: Women with breast cancer experience different variety of symptoms as a result of their diagnosis of disease, or treatment or as an effect of their treatment. Symptom experiencing is very stressful to the patient as well as family and care givers.

Keywords: Breast cancer; Symptom experience; Hawassa; Ethiopia; Chemotherapy

Introduction

Cancer is an emerging public health issue in Africa, with estimates of 715 000 new cases and 542 000 cancer deaths in the continent in 2008. A third of cancer deaths in Africa are potentially preventable, many are caused by chronic infection and tobacco use. An ageing and growing population, together with the adoption of lifestyle habits such as smoking, physical inactivity, and unhealthy, high-calorie, western diets all contribute to the rise of cancer burden in Africa; projections suggest that cancer incidence and mortality will double to 1.28 million new cases and 970 000 deaths per year by 2030.

Comprehensive cancer registration and population-based measurement of cancer burden are yet to be done in Ethiopia. Annual incidence and mortality of all cancer types reported by GLOBOCAN in 2008 were 51 700 and 41 600, respectively. For people under the age of 75 years, the risk of being diagnosed with cancer is 11·3% and the risk of dying from the disease is 9·4%. 5-year prevalence for 2003–2008 was 224.2 per 100 000 people [1].

There is little doubt that despite advances in supportive cancer care, unrelieved symptoms continue to be both prevalent and persistent in the cancer patient population whether in cancer centers or hospices. The symptom experience of cancer patients remains an important area for nursing research and practice. The symptom experience consists of the perception and response to symptom occurrence and related symptom distress. Persistent, unrelieved symptoms impair quality of life (QOL) including activities of daily living, engagement in social and emotional well being and relationships. Symptom severity and symptom distress are aspects of the symptom experience that require assessment in order to fully understand the symptom experience. In some cases, symptom severity and symptom distress may not correlate with each other, and thus, the most severe symptoms may not present as the most distressing. Careful symptom assessment that includes severity and distress are critical aspects of quality palliative care [2].

Symptoms as a result of cancer disease and treatment are both pervasive and persistent despite cancer type, disease stage or treatment received [3,4]. Symptoms such as pain and fatigue represent two of the most common symptoms present in individuals undergoing cancer treatment [5]. Fatigue remains among the most commonly reported and distressing symptom experienced by persons with cancer, as it interferes with the individual's ability to perform daily activities [4].

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Statement of the Problem

Breast cancer is the top cancer in women both in the developed and the developing world. The incidence of breast cancer is increasing in the developing world due to increase life expectancy, increase urbanization and adoption of western lifestyles. Therefore, early detection in order to improve breast cancer outcome and survival remains the cornerstone of breast cancer control.

The most serious acute or short-term side effect of most anti-cancer agents is a fall in the white cells or platelets in the blood – this may lead to reduced ability to resist infection or to bleeding problems (granulocyte stimulating factor or G-CSF, stem-cell infusion and bone marrow transfusion are methods of helping to correct this side-effect in more severe cases). Hence regular blood counts are taken and doses of drugs may need to be adjusted. Other common acute side effects are mouth and throat ulcers, nausea and vomiting, hair loss, or bleeding from the bowel. Whilst some side effects are common, provided the patient survives their toxicity, almost all of them are reversible and they abate after drugs have been stopped. A small number of anti-cancer drugs may affect function of the heart, lungs, kidneys, central nervous system or peripheral nerves, but these effects are not often seen because they are unlikely to occur with normal doses of drugs. Even so, it is still necessary to watch closely and stop treatment at any sign of these problems [6].

Three symptom clusters were identified corresponding to 3 different phases of the breast cancer experience. Each cluster was composed of symptoms related to fatigue, perceived cognitive impairment, and mood problems. Future studies are needed to prospectively examine whether these symptoms cluster across 3 phases of breast cancer and the effect of these clusters on the functional ability and quality of life in women with breast cancer.

Patients with pain and with advanced diseases had significantly higher mean scores in the sickness symptom cluster than patients without pain and with earlier-stage diseases. The patients' functional status was negatively correlated with mean scores in the sickness symptom cluster. Patients under chemotherapy demonstrated significantly higher mean scores in the gastrointestinal symptom cluster than patients under other treatments. Patients with anxiety or depression also had significantly higher mean scores in the emotional symptom cluster than patients without anxiety or depression. This study identified three underlying symptom clusters and verified their conceptual meaning in cancer patients. Knowing these symptom clusters may help healthcare professionals understand plausible mechanisms for the aggregation of symptoms.

Most elderly patients with cancer suffer from a multitude of intense physical and psychological symptoms regardless of the stage of disease. Cancer patients often experience multiple symptoms, and symptoms seldom occur in isolation in patients with advanced cancer. Cancer patients have been reported to experience an average of 11–13 concurrent symptoms. Symptoms may be a result of the disease itself or of the associated treatment. They may considerably affect the patient's sense of wellbeing and his or her physical and social functions. However, most clinical studies in symptom research have focused largely on the treatment of individual symptoms. This focus has undoubtedly led to some advances in the understanding of particular symptoms, but patients seldom present with a single symptom— which may perhaps explain why treating one symptom may not necessarily improve quality of life. The co-occurring symptoms that cancer patients often experience may or may not be interrelated. Although a continuing focus on single-symptom research is crucial, it is equally important that symptom management research begin to evaluate multiple symptoms in cross-sectional and longitudinal study designs. In addition, research needs to more closely examine the relationships between multiple symptoms, specific interventions, and patient outcomes [7].

Significance of the Study

Breast cancer and its treatment is an emerging issue in Ethiopia [8]. Identifying the patients experiences of symptoms receiving chemotherapy is an important indicator of treatment effectiveness. Though, the chemotherapy treatment causes many side effects among the patients during their treatment, some of them are manageable [9]. Some side effects and symptoms will their functional status and quality of life. This study will explain the symptoms experienced by the women receiving chemotherapy and identifies their effect on the functional status of their life activities. There by, this study helps to identify the common symptoms and provides knowledge to implement symptomatic management and control.

Objectives

General objective

To assess the symptom experiences and their effect on functional status among women receiving chemotherapy from Feb 10/2017 to May 10/2017 receiving chemotherapy of women receiving chemotherapy.

Specific objectives

- To determine the symptom experiences of women.
- To identify the effect on functional status of life activities.

To associate the relationship between symptoms and functional status of women.

Methodology

Study setting and design

The study will be carried out in Hawassa referral hospital, Hawassa University, College of Medicine and Health Science which is located in Hawassa, the capital city of SNNPR. It is one of the branches of Hawassa universities found in Hawassa town to the south western part of the city. It is bordered by, to the EAST Hawassa town, to the NORTH tabor mountain, to the WEST Hawassa Lake to the SOUTH Loke major health center. It is landed over 128,900 m^2 areas together with referral hospital. Descriptive cross-sectional study design was conducted. Sample were collected from enrolment of patients to chemotherapy treatment to the end of standard treatment meaning at list for six cycles. All breast cancer patients diagnosed and started their treatment in the study period were included.

Study population and variables

The women diagnosed with Breast Cancer and attending the Referral hospital. All newly diagnosed and put on chemotherapy treatment during the study period will be included in this study.

Inclusion criteria: The patients who are:

- Diagnosed with Breast Cancer.
- Started chemotherapy during the study period.
- Under pediatric group age group less than 18 years.

- Patients who are debilitated.
- Not willing and not able to read and write.

Sampling

All eligible patients who were attending the Oncology unit between the study period are included under the study [10]. As per the records there are 150 patients got enrolled in chemotherapy unit for treatment. All the patients were considered for data collection.

Data collection procedure

Data were collected by using a structured questionnaire, containing patient demographic data, disease condition status questionnaire, Symptom Inventory questionnaire and EGOC functional assessment scale. The data were collected with the help of Purposive sampling technique after the completion and pretesting of the questionnaire was performed among breast cancer patients at Shashamanne hospital. The research members were adequately trained collection data effectively.

Data management and analysis

After accomplishment of data collection, the data were organized and checked. Then the collected data were processed by using tallying, editing, and filling the gap then, the pro**cessed data analysis by using SPSS 20 version. The data was presented by using descriptive statistics like frequency & percentages, logistic regression association, correlation and informed consent was obtained from all th**e patients participated before the data collection.

Operational definitions

Symptom: Is a departure from normal function or feeling which is noticed by a patient, reflecting the presence of an unusual state or of a disease.

Experience: The process of doing and seeing things and of having things happen to you.

Effect: A change which is a result or consequence of an action or other cause.

Functional status: Is an individual's ability to perform normal daily activities required to meet basic needs, fulfill usual roles, and maintain health and well-being.

Chemotherapy: Women receiving cancer toxic drugs as a part of treatment for their breast cancer.

Limitation

The study was limited to breast cancer patients recruiting patients receiving chemotherapy was a challenging condition while conducting the study.

Results

In this study, the demographic variables of the respondents were computed and the analysis shows, that the majority of the respondents 56 (37.3%) were seen in the age group of 31-40 years followed by 40 (26.7%) are identified in the age group of more than 51 years. With regard to religion, majority of the respondents 66 (44%) are believing in Orthodox and 53 (35.3%) of respondents belongs to Oromo culture in their ethnicity.

Focusing on educational status of the respondents, majority 57 (38%) of the respondents had primary education, followed by 39 (26%) don't have any formal education. Among the respondents, majority 108 (72%) were married and 84 (56%) are from urban residencies. The mean monthly income of the respondent and their family is ± 7084.2 in Ethiopian birr.

Related to occupation majority of the respondents 70 (46.7%) are working for the government and 110 (73.3%) of the respondents are living with their spouse and children in the home.

Focusing on the duration of the illness, majority of the respondents 108 (72%) are diagnosed within last 4 years and 98 (65.3%) of the women has surgery for their breast and receiving chemotherapy. Majority 146 (97.3%) of the respondents are having care giver and 132 (88%) of the respondents are identified with presence of additional illness like DVT, DM preumonia, etc., For detail refer Table 1.

In this study, the symptomatic status was identified among the breast cancer women receiving chemotherapy who are experiencing symptoms and categorized them into asymptomatic and symptomatic with their percentages. The results were depicted in the Table 2.

In this study, majority of the respondents 55 (36%) were asymptomatic with regard to their functional status 46 (30.7%) of the respondents were symptomatic but completely ambulatory followed by 16 (10.7%) were spending their time >50% in the bed and 13 (8.7%) were spending >50% of their time in bed. Only 20 (13.3%) of the respondents were found completely bedbound. The results were depicted in the Table 3.

In this study, level of functional status was computed, and found that, 101 (67.3%) were independent and need very little assistance to perform the activities followed by 49 (32.7%) were dependent for their activities. The results are shown in the Table 4.

The level of symptom analysis was generated to show the experience of symptoms by breast cancer women receiving chemotherapy. The level of symptoms were explained based on 0-10 scale assuming that, 0 indicates no symptom experience, 1-4 indicates mild level of experience of symptoms, 5-7 indicates moderate level of symptom experience and >7 indicates severe level of symptom experience by the patients. All the values with their percentages are shown in the Table 5.

Discussion

Performance of functional status is the core aspect of cancer care. It plays a vital role in prognosis of patient and ability of patients performance in their activities of daily living. There are many important factors which are influencing the functional status of the cancer patients like duration of illness, type of treatment receiving, presence of additional illness and having care giver during the treatment process etc.

Patients can experience gradual change in their functional status due to the adverse effects of treatment especially chemotherapy. They will experience different symptoms throughout their treatment process in different levels like mild, moderate and severe. Sometimes, patients may not any difficulty while receiving the chemotherapy and they may identify the changes in their functional status or performance status later on completion of their cycles.

Symptoms experienced by the patient may differ based on their type of cancer, stage of cancer and the number of treatment received or undertaking. The symptoms may have impact on the patients quality of life and general activities of day-to-day life. Symptom distress may cause suffering in the physical, emotional status of patients life. Due to the high impact and prevalence of symptoms on the functional

S. No	Demographic variables	Frequency(F)	Percentage (%)
1	**Age in years**		
	a) 20-30	17	11.3
	b) 31-40	56	37.3
	c) 41-50	37	24.7
	d) >51	40	26.7
2	**Religion**		
	a) Orthodox	66	44
	b) Protestant	60	40
	c) Muslim	20	13.3
	d) Catholic	2	1.3
	e) Others	2	1.3
3	**Ethnicity**		
	a) Sidama	32	21.3
	b) Amhara	43	28.7
	c) Oromo	53	35.3
	d) Others	22	14.7
4	**Educational status**		
	a) No formal education	39	26
	b) Primary education	57	38
	c) Secondary education	24	16
	d) Higher education	30	20
5	**Marital status**		
	a) Single	23	15.3
	b) Married	108	72
	c) Divorced / Separated	6	4
	d) Widow / widowed	13	8.7
6	**Place of residence**		
	a) Rural	66	44
	b) Urban	84	56
7	**Occupation**		
	a) Self employed	8	5.3
	b) Govt. employee	70	46.7
	c) Private worker	21	14
	d) Retired	45	30
	e) Unemployed	6	4
8	**Duration of illness in years**		
	a) <4 years	108	72
	b) >4 years	42	28
9	**Living with whom?**		
	a) Spouse only	16	10.7
	b) Relative/friends	3	2
	c) Children only	18	12
	d) Alone	3	2
	e) Spouse and children	110	73.3
10	**Type of treatment received**		
	a) No treatment started yet	23	15.3
	b) Surgery	6	4
	c) RT	1	0.7
	d) CT	20	13.3
	e) Surgery and chemo	98	65.3
	f) Received more than one	2	1.3
11	**Presence of giver care**		
	a) Yes	146	97.3
	b) No	4	2.7
12	**Presence of additional diseases**		
	a) Yes	18	12
	b) No	132	88
13	**If, yes presence of disease type**		
	a) Asthma	1	0.7
	b) Cholelithiasis	1	0.7
	c) DM	1	0.7
	d) DM and HTN	1	0.7
	e) DVT, Preumonia	4	2.7
	f) HTN	6	4
	g) RV1	1	0.7
	h) RV1 and Asthma	3	2

Table 1: Frequency and percentage distribution of demographic variables of breast cancer women (N=150).

S. No	Variables/symptoms n=150	Symptomatic		Asymptomatic	
		F	%	F	%
1	Fatigue	103	68.7	47	31.3
2	Change in appetite	109	72.7	41	27.3
3	Pain	96	64	54	36
4	Change in sleep pattern	111	74	39	26
5	Change in weight	15	10	135	90
6	Vaginal dryness	79	52.7	71	47.3
7	Changes in menstrual period	91	60.7	59	39.3
8	Shortness of breath	49	32.7	101	67.3
9	Feeling drowsy	95	63.3	55	36.7
10	Dry mouth	84	56	66	44
11	Feeling of sadness	88	58.7	62	41.3
12	Presence of vomiting	59	39.3	91	60.7
13	Numbness and tingling	50	33.3	100	66.7
14	Changes in memory	101	67.3	49	32.7
15	Changes in general activity	75	50	75	50
16	Mood change	82	54.7	68	45.3
17	Change in work level	80	53.3	70	46.7
18	Change in relation with others	79	52.7	71	47.3
19	Walking difficulty	71	47.3	79	52.7
20	Problem in enjoyment	57	38	93	62
21	Urine frequency	61	40.7	59	59.3
22	Cough or sore throat	32	21.3	118	78.7
23	Constipation	37	24.7	113	75.3
24	Rectal irritation	31	20.7	119	79.3
25	Diarrhea	8	5.3	142	94.7
26	Skin peeling	22	14.7	128	85.3
27	Pain on urination	27	18	123	82
28	Joint pain / arthritis	40	26.7	110	73.3
29	Presence of bleeding	2	1.3	148	98.7
30	Hot flashes	48	32	102	68

Table 2: Frequency and percentage distribution of breast cancer women based on MD Anderson symptom inventory symptom status.

S. No	Functional status items N=150	F	%
1	0 – Asymptomatic	55	36.7
2	1– Symptomatic but completely ambulatory	46	30.7
3	2– symptomatic <50% in bed	13	8.7
4	3– Symptomatic >50% in bed	16	10.7
5	4– Bedbound	20	13.3

Table 3: Frequency and percentage distribution of functional status of breast cancer women.

status of cancer patients, this study was mainly aimed at identifying the symptom experiences of women receiving chemotherapy and to extract the association between the factors influencing on functional status of the cancer patients.

S. No	Level of Functional status	N=150	
		F	%
1	Independent and need assistance for little things	101	67.3
2	Completely and moderately dependent	49	32.7

Table 4: Frequency and percentage distribution of level of functional status of breast cancer women.

S. No	Symptoms	No symptom		Mild/Level		Moderate/level		Severe/level	
		F	%	F	%	F	%	F	%
1	Pain	54	36	74	49.3	12	8	10	6.7
2	Change in sleep pattern	39	26	79	52.7	6	4	26	17.3
3	Change in weight	135	90	13	8.7	2	1.3	0	0
4	Vaginal dryness	71	47.3	76	50.7	3	2	0	0
5	Changes in menstruation	59	39.3	43	28.7	3	2	45	30
6	Shortness of breath	101	67.3	23	15.3	12	8	14	9.3
7	Drowsiness	55	36.7	79	52.7	2	1.3	14	9.3
8	Peeling of skin	62	41.3	72	48	4	2.7	12	8
9	Vomiting	92	61.3	51	34	4	27	3	2
10	Numbness and tingling	101	67.3	41	27.3	2	1.3	6	4
11	Memory changes	49	32.7	84	56	9	6	8	5.3
12	Changes in general Activity	75	50	36	24	13	8.7	26	17.3
13	Mood fluctuation	68	45.3	51	34	7	4.7	24	16
14	Work changes ability	70	46.7	36	24	14	9.3	30	20
15	Difficulty in walking	79	52.7	39	26	7	4.7	25	16.7
16	Changes in relationship	71	47.3	42	28	13	8.7	24	16
17	Problem in enjoyment	93	62	25	16.7	5	3.3	27	18
18	Fatigue	47	31.3	63	42	18	12	22	14.7
19	Change in appetite	0	0	72	0	5	0	7	0
20	Dry mouth	66	44	72	48	5	3.3	7	4.7
21	Feeling sad	62	41.3	72	48	4	2.7	12	8
22	Urine frequency	89	59.3	58	38.7	1	0.7	2	1.3
23	Cough or sore throat	118	78.7	30	20	2	1.3	32	21.3
24	Constipation	113	75.3	33	22	1	0.7	3	2
25	Rectal irritation	119	79.3	29	19.3	1	0.7	1	0.7
26	Diarrhoea	142	94.2	6	4	1	0.7	1	7
27	Pain on urination	123	82	24	16	3	2	27	18
28	Joint pains	110	73.3	33	22	4	2.7	3	2
29	Hot flashes	102	68	45	30	2	1.3	1	0.7
30	Presence of bleeding	148	98.7	1	0.7	0	0	1	0.7

Table 5: Frequency and percentage distribution of level of symptom experiences of breast cancer women.

A sample of 150 breast cancer women receiving chemotherapy were employed who enrolled for treatment. The main limitation of this study was number of women encolled for treatment. The main constraint was due to the limited service facility in the oncology department. Large sample recruitment seen as a major challenge.

Symptom experiences

Women experienced a large number of symptoms, among majority experienced changes in sleep pattern, changes in appetite and fatigue. This changes are consistent with earlier studies performed. 60.7% of women have experienced changes in their menstrual periods and 64% of them have experienced pain. In this study, 30 symptoms experiences were assessed from the women, and the results have shown that, majority of the women nearly 74% of the respondents have experienced different symptoms in different levels, like mild, moderate and severe levels.

Conclusion

Women with breast cancer experience different variety of symptoms as a result of their diagnosis of disease, or treatment or as an effect of their treatment. Symptom experiencing is very stressful to the patient as well as family and care givers. Despite the prevalence of the problem, focus should be focused on the assessment or identification of different symptom clusters and considering them while investigating before the initiation and during the treatment helps in positive outcome.

Underassessment and lack of investigation may not identify the gaps of treatment strategies to facilitate better patient outcomes. Nurses need to impart knowledge and sound skills of assessments in identifying or assessing the symptoms regularly and continuously when the patient enrolls for treatment will help in planning of better treatment strategies for patients. Effective interventions should be planned for identified symptom clusters.

Recommendation

Based on this study findings, it should be noted that, there are limited studies conducted on this area of research and the specific symptom assessment should be performed to enhance the symptom

management of patient. The study can be conducted on large sample and by diffusing various research methods including the clinical trials to advance the cancer nursing research and to yield the best outcomes of symptom management. Effective treatment strategies or nursing interventions should be planned by conducting related research studies to decrease effects and to improve the quality of life of patients. Support groups can be initiated by specific symptoms in the community to increase the awareness and to impact knowledge on symptoms and their management.

Contribution

Both SB and BD wrote the proposal, participated in data collection, analyzed the data and drafted the paper. BD revised and approved the proposal, data analysis and revised subsequent drafts of the paper. BD has been prepared the manuscript. Both authors read and approved the final manuscript.

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