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Presentation Delay in Breast Cancer Patients, Identifying the Barriers Among Women Receiving Breast Cancer Drugs at Hawassa University Comprehensive and Specialized Hospital, Ethiopia

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Abstract

Background: *Breast cancer remains the most common cancer and most common cause of cancer-related mortality among women worldwide [1]. While incidence rates have historically been higher in the developed world, there has been a recent sharp increase in incidence and mortality in the developing world [2].* ***Objectives:*** *The main purpose of this study was to assess the barriers resulting in delayed patient presentation to breast cancer care among women receiving breast cancer drugs at Hawassa University Comprehensive Specialized Hospital. This study was the first conducted in Hawassa.* ***Methods****: A hospital-based descriptive cross-sectional study design was done from June 01, 2017 to December 30, 2017 to answer the study objectives. All delayed 106 women receiving breast cancer drug during data collection period participated in the study. Structured data collection tool which encompass possible barriers in developing countries were applied to collect data from each study subject. Before the data collection, written ethical clearance letter was obtained from IRB of Hawassa University. Data entry was done using EPI Info 3.5.4 and exported to SPSS version 20.0 software package for analysis.* ***Results:*** *This study revealed that delay is multifactorial. Of 106 delayed women to breast cancer care, 98.1% did not have knowledge about sign and symptom of breast cancer; about 71.7% of them were late thinking that the breast cancer lump was not dangerous enough to consult expert health professionals and 64.2% of mothers delayed using alternative medicines such as prayer, herbal remedy or traditional healers. There was no significant statistical association found with major causes of delay and sociodemographic characteristics of the women.* ***Conclusion:*** *A significant percentage of women with breast cancer in Hawassa and nearby were experiencing presentation delay due to sociocultural, economic and health and health-related causes. Hence, an intense and focused awareness campaign about breast cancer is needed to educate the general population by the Ethiopian Cancer Association, Federal Ministry of Health, Regional Health Offices and any other concerned body.*

Keywords: *Breast cancer, barriers to early patient presentation, Ethiopia, breast cancer care*

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INTRODUCTION

Breast cancer is the most common cancer in women, accounting for 23% of all female cancers around the globe [1].

Breast cancer is the primary cause of cancer death among women globally. It is estimated that over 508, 000 women died in 2011 due to breast cancer worldwide. Although breast cancer is thought to be a disease of the developed world, almost 50% of breast cancer cases and 58% of deaths occur in less developed countries [2].

Africa faces potential increases in breast cancer rates as African women adopt western reproductive and dietary behaviors that have been shown to increase the risk of breast cancer [3].

Hospital records show that in Ethiopia there are more than 200,000 cancer cases per year where cervical and breast cancers are the top two cancer types having a lion's share for the high women deaths in the country and most women with breast cancer still present very late and treatment outcomes are often not optimal [4].

There are many potential barriers that prevent women from seeking treatment upon first noticing breast cancer symptoms. These include economic and logistical barriers, as well as cultural and social factors such as stigma or poor healthcare-seeking behaviors [5].

Diagnostic delays of 3–6 months are associated with advanced stage of breast cancer and lower survival. Detection and treatment of cancer at an early stage improves the prospects for long-term survival [6].

One study in sub-Saharan Africa found that 90% of breast cancer patients presented with stage III or IV of the disease, exhibited a median primary tumor size of 10 cm, and displayed clinically palpable nodal disease and a pattern of disease so advanced that even optimal western therapy would offer minimal survival value [7].

In Ethiopia, no previous research was done and presentation delay of breast cancer among Ethiopian particularly Hawassa women is not well documented and still insufficient published data. Therefore, the aim of this study was to understand these factors to optimize future interventions that prevent patient delay.

METHODS

Study Design and Setting

A hospital-based descriptive cross-sectional study design was used from June 01, 2017 to December 30, 2017 among women receiving breast cancer drugs at Hawassa University Comprehensive Specialized Hospital.

Hawassa is situated at the eastern shore of Lake Hawassa and is located 275 km to south of Addis Ababa, the capital city of the country. Hawassa University Comprehensive Specialized Hospital is located in south part of Hawassa town. The hospital has been treating patients from South region especially Sidama zone and from neighboring Oromia region and it is the only hospital giving breast cancer treatment in SNNPR. The services were increased gradually during the past time and currently the hospital has around 350 in-patient beds; different service giving units including secondary eye unit, physiotherapy unit, ENT unit, dermatology unit, pathology unit, oncology unit and dental clinic. The hospital is also center for different initiated projects. The vision is to make the hospital a center of training and research for tropical diseases in addition to curative services**.** The hospital has a center for cancer treatment encompass surgery and breast cancer drugs/ chemotherapy.

Sample Size and Sampling Procedure

No specific sampling strategy was employed in this study, all 106 delayed women receiving breast cancer drug from June 01, 2017 to December 30, 2017 were considered for the study.

Hawassa University Comprehensive Specialized Hospital was selected because it is the only hospital giving breast cancer treatment in SNNPR and neighboring Oromia region.

Data Collection Tools and Procedures

A structured interviewer-administered questionnaire designed by researcher based on reviewed literature which include possible barriers to early breast cancer care in developing countries were modified as Ethiopian context and used to collect data [8, 9].

Data were collected through face-to-face interview by two B.Sc. nurses working at breast cancer center with data collection experience and who can fluently communicate with the official language. One physician working at breast cancer center, who had research experience was recruited as supervisor. The questionnaires were prepared in English language then it was translated to an official language of the region Amharic then back to English to keep its consistency. The data collectors were trained for two days about the objective and relevance of the study, confidentiality of information, respondent rights, informed consent, and technique of interview and related issues prior to the start of data collection and were closely supervised during the data collection. The collected data were reviewed and checked for completeness before data entry.

Statistical Analysis

Data entry was done by using EPI Info 3.5.4 and exported to SPSS version 20.0 software

package for analysis. We did descriptive analysis to compute proportions for describing the basic characteristics of the study participant and the barriers resulted in presentation delay.

Ethics Approval and Consent to Participate

A written ethical clearance was obtained from the Institutional Review Board at the College of Medicine and Health Sciences of Hawassa University, Hawassa, Ethiopia. Formal letter of cooperation was written to the Hawassa University Comprehensive and Specialized Hospitals. After provision of sufficient information about the purpose of study, a verbal and written consent were obtained from all study participants. Participants were also informed that participation was on voluntary basis and they could withdraw from the study at any time if they were not comfortable about the questionnaire. There was no study participant aged below 23 years in this study. Confidentiality of information obtained from the study participants was assured by anonymizing the questionnaires.

Operational Definitions

Barrier: Any factor prevents a woman to early presentation to breast cancer care.

Delay: Patient delay is defined as women delayed more than three months from the appearance of a breast cancer symptom to the consultation of expert healthcare professional.

RESULTS

Sociodemographic Characteristics of the Study Participants

A total of 106 women delayed to breast cancer care participated in the study with 100% response rate. The dominant age group was 35–39 years (26.4%). Majority of the respondents were married (95.3%) and elementary school was the largest educational status accomplished (29.2%). Only 13.2% of the participants had history of breast cancer in the family and majority of them (64.2%) were residents of urban area. Most of them were housewife (42.5%) and 37.7% were Oromo by ethnicity. Almost all of the respondents (92.5%) claimed low economic status (Table 1).

Table 1: *Sociodemographic Characteristics of the Women Receiving Breast Cancer Drugs at Hawassa University Specialized and Comprehensive Hospital, Hawassa, SNNPR, Ethiopia, November 2017 (n=106).*

Sociodemographic characteristics		Frequency	Percent
Age (in years)	15–24	2	1.9
	25–29	4	3.8
	30–34	6	5.7
	35–39	28	26.4
	40–44	14	13.2
	45–49	15	14.2
	50–54	10	9.4
	55–59	13	12.3
	60–64	10	9.4
	65–65+	4	3.8
	Total	106	100.0
Marital status	Married	101	95.3
	Single	5	4.7
	Total	106	100.0
Educational status	Uneducated	30	28.3
	Elementary school	31	29.2
	High school	25	23.6
	College and above	20	18.9
	Total	106	100.0
Breast cancer in the family	Yes	14	13.2
	No	92	86.8
	Total	106	100.0
Residence	Urban	68	64.2
	Rural	38	35.8
	Total	106	100.0
Occupation	Professional employ	31	29.2
	Farmer	3	2.8
	Merchant	17	16.0
	Housewife	45	42.5
	Daily laborer	10	9.4
	Total	106	100.0
Ethnicity	Sidama	12	11.3
	Oromo	40	37.7
	Amhara	37	34.9
	Wolaita	6	5.7
	Tigre	1	0.9
	Gamo	3	2.8
	Silte	3	2.8
	Derashe	3	2.8
	Dawro	1	0.9
	Total	106	100.0
Income	Low	98	92.5
	Middle	8	7.5
	Total	106	100.0

Sociocultural Barriers

The major reason which made women late to early breast cancer care in this study was lack of knowledge about sign and symptom of breast cancer (98.1%). Even if there is no significant statistical association, lack of knowledge

associated with educational status of the women as elementary school, high school and college and above were 29.8%, 24.0% and 18.3%, respectively.

More than half (64.2%) of mothers delayed using alternative medicines such as prayer, herbal remedy or traditional healers. Using alternative medicine also associated with elementary school, high school and college and above were 34.2%, 26.5% and 17.6%, respectively but there was no significant statistical association.

Half (51.9%) of them were late due to fear of examination and treatment like disfigurement after surgery and only 7.5% of study participants were late due to stigma of the disease.

Majority (71.7%) of them were delayed because they think the breast cancer lump was not dangerous enough to consult expert health professionals and thinking the breast lump was not dangerous also associated with elementary school, high school and college and above were 32.9%, 21.1% and 13.2%, respectively but there was no significant statistical association.

Only 31.1% of study participants were late due to lack of social support and lack of support associated with income of women as 100% of the them were with low income but there was no significant statistical association (Figure 1).

Economic Barriers

A great proportion of women (63.2%) were late because of fear of high cost of medical care and it was associated with income of study participants as 100% of them were with low income but there was no significant statistical association.

Only 27.4% were late due to high cost of travel to the hospital and almost half (46.2%) of them due to obligation at home/work. Obligation at home/work was also associated with occupation of the women as professional employ (38%) were late as compared to farmer (6.1%), merchant (18.4%), housewife (24.5%) and daily laborer (12.2%) but there was no significant statistical association (Figure 2)

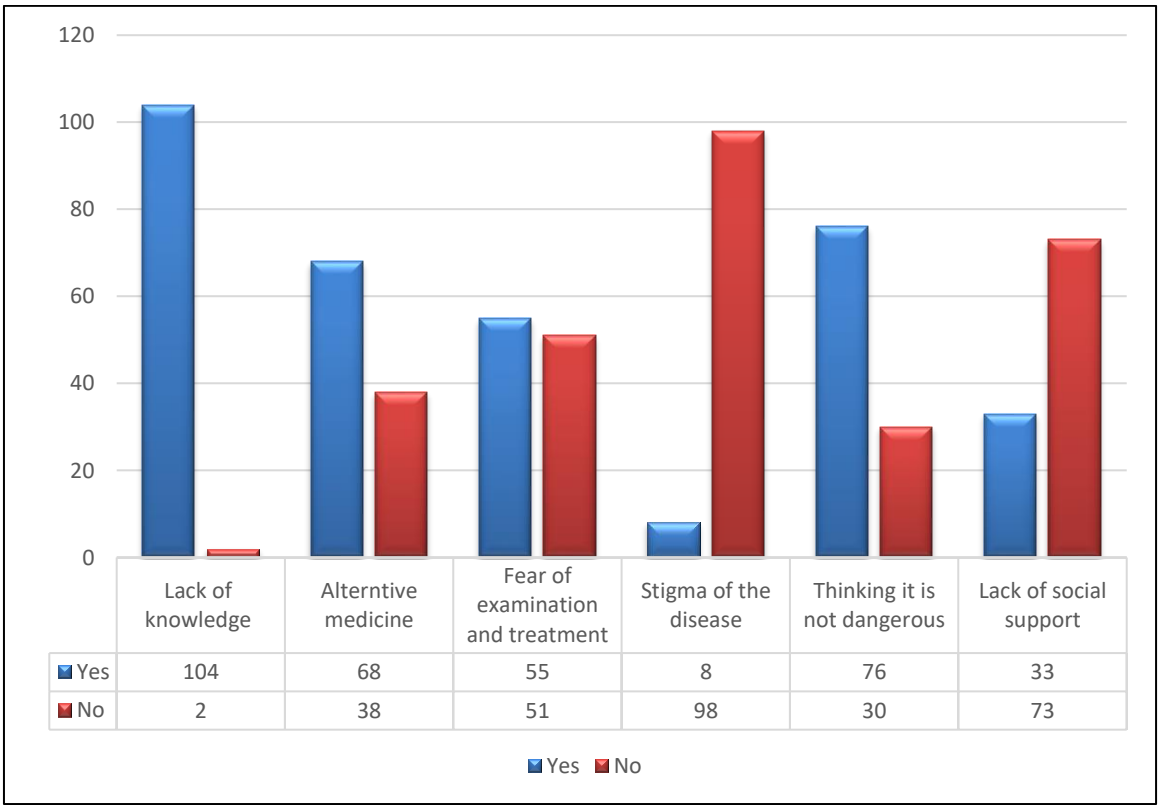

Fig. 1: *Sociocultural Barriers Causing Presentation Delay to Breast Cancer Care at Hawassa University Comprehensive and Specialized Hospital, Hawassa, South Ethiopia, March 2018 (n=106).*

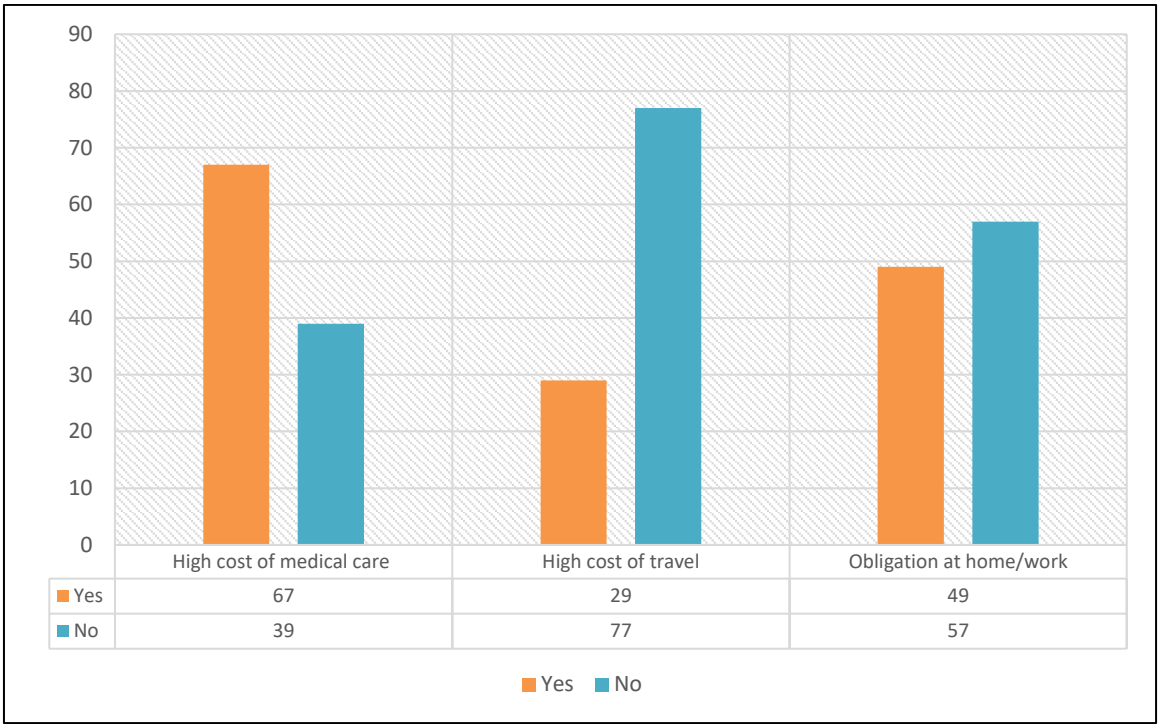

Fig. 2: *Economic Barriers Causing Presentation Delay to Breast Cancer Care at Hawassa University Comprehensive and Specialized Hospital, Hawassa, South Ethiopia, March 2018 (n=106).*

Health and Health-Related Barriers

Thirty-two (30.2%) of the study participants were late due to inaccessibility of healthcare system and it was associated with income of study participants as 100% of the them were with low income but there is no significant statistical association.

A great proportion of women (18.9%) were late due to misdiagnosis of breast cancer as they were informed it is nothing to worry about by health professionals (Table 2).

Table 2: *Health and Health-Related Barriers Causing Presentation Delay to a Breast Cancer Care at Hawassa University Specialized and Comprehensive Hospital, Hawassa, South Ethiopia, March 2018 (n =106).*

Health and health-related factors	Yes	No
Inaccessibility to healthcare system	32 (30.2%)	74 (69.8%)
Misdiagnosis by health professionals	20 (18.9%)	86 (71.1%)

DISCUSSION

This study revealed that delay is multifactorial as sociocultural, economic as well as health and health-related factors brought the women late to early breast cancer care. Breast cancer in low-resource countries, little public awareness of cancer generally and breast cancer specifically, are a crucial obstacle where breast cancer commonly remains undiagnosed until it is late stage or metastatic, when treatment options have less benefit or are simply unavailable [10].

Sociocultural Barriers

This study revealed that the number one factor brought the affected women late to early breast cancer care was lack of knowledge about sign and symptom of the disease (98.1%). This result is much higher than a study done in UK among black women (16%) [11]. The higher finding in this study may be due to many reasons especially little public awareness of breast cancer in Ethiopia and difference in educational status as most of the mothers accomplished elementary school.

Misconceptions about the nature of breast cancer can lead women to seek alternative care instead of standard treatment [10]. According to this study, the second reason which made the women late was using alternative medicines such as prayer, herbal remedy or traditional healers (64.2%). This finding is higher than the study conducted in northern Pakistan (40.7%)

[12] and the difference may be due to breast cancer is a new problem in Ethiopia and most Ethiopian society believed that cancer is treated by prayer, holy water and herbal remedy rather than modern medicines.

Examination and treatment fear prolong delay among some women with cancer. In this study, about 51.9% women were late due to fear of examination and treatment like disfigurement after breast surgery. The finding revealed similar result as 57% of African–American women believed treatments for breast cancer were worse than the disease itself [11].

This study revealed that, only 7.5% of women were late because of stigma of the disease. The finding was low as stigma and taboo emerged as salient themes among black women in the USA and the UK [8]. This difference might be due to cultural difference as there is no deep-rooted stigma for cancer in Ethiopian society such as sexual transmitted disease like HIV/AIDS.

Many of women with cancer had underestimated the significance of their symptoms which contributed to them a delay in presentation [11]. This study identified that, 71.7% of them were late thinking that the breast cancer lump was not dangerous enough to consult expert health professionals. This finding was much higher than the study conducted in northern Pakistan (17.1%) [12]. Another study suggested that 13.9% African–American women were more likely than white women to delay presentation if their lump was not bothering them [11]. The higher finding in this study may be due to the fact that a lump caused by breast cancer is not well known and may perceive other breast-related problem by Ethiopian women as disease is new and not well promoted by the Federal Ministry of Health of Ethiopia.

Thirty-three (31.1%) of study participants were late due to lack of social support. The finding was similar as limited evidence indicates that African–American women are more likely than white women to delay seeking help due to lack of partner support [11].

Economic Barriers

Even in wealthy societies, women with fewer financial resources are more likely to delay seeking medical attention [8]. In this study, a great proportion of women (63.2%) were late due to fear of high cost of medical care. The finding was much higher than the study done in the USA as 17% reported a self-delay which was associated with poorer financial status [8]. The higher finding in this study may be due to the fact that 92.5% of the study participants were low in economic status and most Ethiopian women live below the poverty line.

This study identified that, almost half (46.2%) of women were late due to obligation at home/work. The finding was higher than study done in the UK as black women (32%) and white women (37%) to report having too many other things to worry about, and similar proportions reported being too busy to make time to consult the medical doctors [8]. The difference is may be due to most Ethiopian women are busy at home and work place to help their husband to earn money.

Health and Health-Related Barriers

According to this study, about 30.2% of women were late due to inaccessibility of healthcare system. The finding is higher than study done in the USA as the effect of access issues on delay was mixed [11]. It is clear that accessibility issue is very common in Ethiopia; for example, Hawassa University Comprehensive Specialized Hospital is the only hospital that gives breast cancer treatment in south region of Ethiopia, serving more 20 million people.

This study showed that, about 18.9% of women were late due to misdiagnosis of breast cancer by health professionals as they were informed it is nothing to worry about the lump. The finding is higher as compared to study done in the USA as only three African–American women from 210 with cancer were initially told that their symptoms were benign and this contributed to delayed diagnosis [8]. The difference is may be due to inadequate number of health professionals specialized in cancer diagnosis and treatment in Ethiopia.

CONCLUSION

A significant percentage of women with breast cancer in Hawassa and nearby are experiencing presentation delay due to sociocultural, economic and health-related factors. This study found strong evidence for lack of knowledge about sign and symptom of breast cancer relating to patient delay as a number one cause.

Thinking the breast cancer lump was not dangerous enough to consult expert health professionals; using alternative medicines such as prayer, herbal remedy or traditional healers; fear of high cost of medical care; fear of examination and treatment and obligation at home/work contributed more for delay in this study, respectively.

Stigma of the disease; misdiagnosis of breast cancer by health professionals; high cost of travel to the hospital; inaccessibility of healthcare system and lack of social support contributed less for delay in this study, respectively. Hence, an intense and focused awareness campaign is needed to educate the general population about breast cancer by the Ethiopian Cancer Association, Federal Ministry of Health, Regional Health Offices and any other concerned body.

LIMITATION OF THE STUDY

All possible barriers resulting in delay of women to breast cancer center may not be addressed.

LIST OF ABBREVIATIONS

WHO: World Health Organization;
SBE: Self Breast Examination;
B.Sc.: Bachelor of Science;
LMIC: Low-to-Middle Income Countries;
UK: United Kingdom;
USA: United States of America;
IRB: Institutional Review Board of Hawassa University;
SNNPRS: Southern Nations Nationalities and Peoples Region;
NORAD: Norwegian Agency for Development Cooperation.

DECLARATION

Ethics Approval and Consent to Participate

A written ethical clearance was obtained from the Institutional Review Board at the College of Medicine and Health Sciences of Hawassa University, Hawassa, Ethiopia. Formal letter of cooperation was written to the Hawassa University Comprehensive and Specialized Hospitals. After provision of sufficient information about the purpose of study, a verbal and written consent were obtained from all the study participants. Participants were also informed that participation was on voluntary basis and they can withdraw from the study at any time if they are not comfortable about the questionnaire. There was no study participant aged below 23 years in this study. Confidentiality of information obtained from the study participants was assured by anonymizing the questionnaires.

Consent for Publication

Not applicable.

Availability of Data and Materials

All data generated or analyzed during this study are included in this published article [and its supplementary information files]. We send all which are available; there is no remaining data and materials.

Competent Interests

The authors declare no conflict of interest

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This research was funded by NORAD. The role of the funding body was to expense the cost for data collection, analysis and interpretation. The study design and manuscript were designed and written by authors.

Authors' Contribution

WJ conceived of and designed the study, participated in data collection, analyzed the data and drafted the paper. BD critically reviewed the study protocol, participated in data acquisition and analysis and reviewed the draft manuscript. Both the authors read and approved the final manuscript.

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