Short Communication

Barriers for Early Detection of Breast Cancer among South Indian Women

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Abstract

Background: Breast cancer is one of the most common neoplasms in women across the world. Early diagnosis of breast cancer results in reduced morbidity, mortality, and improved quality of life. **Objective:** This study was conducted to identify the barriers among Indian women diagnosed with breast cancer in an advanced stage. **Methods:** A cross-sectional descriptive survey was conducted in a tertiary care teaching hospital, Southern India, among breast cancer patients. A total of 202 women with breast cancer (Stage 3 and 4) were recruited based on the predefined inclusion and exclusion criteria. The data were collected using a demographic proforma and barrier checklist and analyzed using SPSS 16.0 version. **Results:** The mean age of the women was 51.5 ± 10.7 years. The majority of them were Hindu (87.6%), housewives (69.8%), with primary education (39.6%). The women have cited several barriers including financial (54.5%), lack of knowledge about breast cancer (49.5%), frightened about diagnostic test result (56.9%), afraid of anticipated surgery (54.5%), and the dearth of accessibility to health resources (52%). **Conclusions:** The presence of barriers in early diagnosis of breast cancer occurs in various contexts and should be recognized and minimized by all health-care providers to reduce the associated health-care cost, morbidity, and mortality.

Keywords: Barriers, breast cancer, early diagnosis, India, risk factors, women

Introduction

Breast cancer is one of the most prevalent cancers among females and it accounts for 23% of all cancers in females globally.[1] It was expected to cross 2 million by 2030.[2] The incidence of breast cancer was not homogenous worldwide, and it was slightly less in India compared to many of the developed countries; however, mortality was higher.[1] The occurrence of breast cancer among Indian women was 10 years younger than in Western countries.[3]

One of the reasons for high mortality was a diagnosis of breast cancer in an advanced stage.[4,5] Lack of cancer literacy in spite of the improved educational status of Indian women remained as a significant barrier in the early diagnosis of breast cancer.[6] To combat the national burden of cancer, The Indian government had launched national cancer control program in 1975 and National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases, and Stroke in 12th 5-year plan. Yet, the rate of breast cancer has not reduced.[6]

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Early detection and management were important approaches for better survival outcomes for breast cancer patients.[7] Any delay by patients presenting to health facilities for detection or management of breast cancer was probably to effect disease advancement to a progressive stage, which will eventually distress the disease prediction.[7] The reason for late diagnosis was a lack of awareness, limited health resources, and fear of the disease itself.[8] Even though the facilities were available and our women do not utilize the services unless they were symptomatic.[9] Moreover, barriers vary from place to place. We could not find any evidence of investigating the barriers in the present study setting. Therefore, this study aimed to identify the barriers to early detection of breast cancer to recommend the public health agencies to eliminate the barrier to reduce the disease burden.

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Materials and Methods

Design and setting

A cross-sectional descriptive study with a quantitative approach was conducted in a tertiary care teaching hospital in Southern India from January 2, 2018 to November 31, 2018. The hospital has all the superspecialty services and a separate section for cancer patients.

Study participants

The inclusion criteria were: (a) women who were diagnosed to have primary breast cancer; stage 3 or 4, (b) who was on chemotherapy, radiation therapy, or other modes of treatment in the study setting, (c) who were diagnosed in the present study setting, and (d) who were willing to consent for the study. The patients who were critically ill and being treated in the intensive care unit were excluded. The sample size was calculated based on the previous study result using the proportion of estimation[10] and the barrier considered for sample size calculation was lack of knowledge (85%). The calculated sample size was 195. Since institutional review board suggested taking few additional samples, we have recruited 202 participants.

Data collection instruments

A demographic proforma and barrier checklist were used to collect the data. Demographic proforma had the basic information of the women including age, literacy status, occupation, reproductive history, area of residence, and stage at diagnosis. The barrier checklist had 35 items with "yes" or "no" option. The experts validated both the tools. Pretesting of the tool was done among ten subjects, and there was no difficulty noticed. The reliability of the barrier checklist was found out using test–retest method and found reliable ($r = 0.87$).

Statistical analysis

The collected data were coded and entered into SPSS 16.0 (Statistical Package for the Social Sciences (SPSS) 16.0 by IBM) (SPSS for windows, Rel. 16.0.2007, SPSS Inc., Chicago, IL, USA). The continuous variables were expressed in mean and standard deviation. The categorical data were analyzed by frequency and percentage.

Ethical consideration

The institutional ethical committee clearance was obtained to conduct the study. The study was registered in Clinical Trial Registry – India (CTRI/2018/01/011180). The written, informed consent was obtained from each participant after explaining the objectives of the study.

Results

Demographics

Data were collected from 202 women and 85 (42.1%) were in Stage 3 and the rest, 117 (57.9%) were in Stage 4 of breast cancer. Tables 1 and 2 explain the demographic description.

The mean age of the participants was 51.5 years. The average age of attaining menarche and menopause was normal. The majority of them were Hindu (87.6%), housewives (69.8%) with primary education (39.6%), received information on breast cancer from health-care professionals (66.8%). Nine of them were using tobacco and only one was alcoholic, and three-fourths of them were nonvegetarians.

Table 1: Age and the reproductive details of the participants

Demographic characteristics	*n*	Mean±SD
Age (years)	202	51.5±10.7
Age at menarche (years)	202	13.8±1.3
Age at marriage (years)	200	22.6±4.4
Age at first child birth (years)	193	24.6±4.5
Age at menopause (years)	131	48.2±4.4

SD: Standard deviation

Table 2: The demographic characteristics of the participants (*n*=202)

Area	Characteristics	Frequency (%)
Education	Primary school	80 (39.6)
	High school	65 (32.2)
	Under graduate	28 (13.9)
	Graduate and above	29 (14.3)
Occupation	Skilled work	20 (9.9)
	Unskilled work	35 (17.3)
	Business	6 (3.0)
	Housewife	141 (69.8)
Religion	Hindu	177 (87.7)
	Christian	12 (5.9)
	Muslim	13 (6.4)
Habits	Alcoholism	1 (0.5)
	Use of tobacco	9 (4.5)
Diet	Veg	48 (23.8)
	Mixed diet	154 (76.2)
Source of information on breast cancer	No information	2 (1.0)
	Mass media	13 (6.4)
	Friends	6 (3.0)
	Relatives	25 (12.4)
	Neighbors	2 (1.0)
	Healthcare professionals	135 (66.8)
	Multiple	19 (9.4)

Barriers for early detection of breast cancer

Table 3 depicts the personal or individual-specific factors. Among the surveyed women, 56.9% were frightened to know their test result that it would detect cancer and 54.5% were afraid of surgical treatment. Nearly half (49.5%) of them had no idea about breast cancer indicating the knowledge barrier for early detection of breast cancer. Surprisingly, 42.1% of women did not visit the hospital, as there was no one to accompany them and they felt that they would have to go to the hospital more often.

Table 4 presents the general issues that were not specific to an individual such as sociocultural influences, economic factors, and availability of health-care resources.

Table 3: Frequency and percentage distribution of individual specific barriers for early detection of breast cancer (n=202)

Barriers	Yes, frequency (%)
Lack of awareness	
No idea about breast cancer	100 (49.5)
Due to complications associated with the disease do not want to test	64 (31.7)
Cancer is related to other health problems	62 (30.7)
It can be treated with herbal and home remedies	27 (13.4)
Have to wait for long time to get the tests' results	58 (28.7)
Responsibility barriers	
Lack of time to go to hospital	79 (39.1)
Couldn't take leave from work	49 (24.3)
Perception of old and no treatment required	20 (9.1)
No family support to go to hospital	27 (13.4)
Afraid of going to hospital alone	85 (42.1)
Nervousness that in-laws would ill treat	14 (6.9)
Disease apprehension barriers	
Scared about different tests	88 (43.6)
Scared about the results of tests	115 (56.9)
Scared of side effects of treatment	69 (34.2)
Scared of wrong diagnosis	34 (16.8)
Scared of undergoing Mammography	73 (36.1)
Scared of undergoing surgery	110 (54.5)
Fear of failure in marital life	32 (15.8)
Fear of frequent visits to hospital for treatment	85 (42.1)
Fear of death due to cancer	42 (20.8)

The women have had mentioned multiple barriers in different domains. The most important economic barrier was the financial problems of going to a hospital and getting tested (54.5%). Women also have reported that nonavailability of health resources nearby (52%) or lack of specialty hospital (34.2%) was other obstacles. More than one-fourth (27%) of women find it embarrassing to consult the doctor or nonavailability of female doctors (32.2%). Because society has a negative attitude (27.7%) toward breast cancer, it hinders early detection.

Discussion

The women have experienced barriers in different periods of diseases starting from diagnosis to treatment. They had multiple barriers such as economic, health resources, personal, family, sociocultural, and disease apprehension barriers.

One of the reasons for diagnosing breast cancer in the advanced stage was a postponement in accessing health-care services among Indian women,[7] whereas the diagnosis was made at an early stage in developed countries.[11] The disease presentation in the later stages attributes to the high mortality and morbidity[12] and high treatment cost.[4]

Some women were late to visit the doctor thinking that they were old and need not to take treatment. A similar trend of postponing medical consultation was reported in the previous study.[7] Several high-income countries have structured breast cancer screening programs. The developing countries like India have lacked these screening agendas. The need for health education and health awareness among women noted in our study that half of the participants had no idea about breast cancer, which was in agreement with the previous studies.[7,13] The primary health-care workers in India have good knowledge of risk factors that cause breast cancer and its early detection.[14] These primary health-care workers can improve cancer literacy through awareness programs, early detection campaigns, and treatment which helps reduce the disease burden.

Women cited the lack of awareness about breast cancer as one of the barriers. This finding can be described by the low literacy rate and poverty of women.[4,10,15] The dearth of knowledge about the ill health delays in consulting the doctor, even with the presence of significant clinical features as the lymph node enlargement, redness, and localized swelling, since the woman, and sometimes family and relatives give altered meaning to the presenting signs and symptoms. In addition, the fear of cancer or its detection and treatment was one of the foremost sociocultural obstacles in early diagnosis.[16-18] In agreement to this, the present study also explains the fear of diagnosis, different tests, and treatment such as surgery and side effects of chemotherapy were the barriers.

Unavailability of health resources contributes to delay in diagnosis and this has been a significant problem even in other places.[4,19] Ease of access to health amenities shows a discrepancy in different states of India.[7]

A small percentage of women perceived that their family did not support them to go to the hospital. Neglecting women's health in India was a known fact which results in the poor health status of women.[20]

Low socioeconomic status, not having a usual source of health care, or fear of the disease has been associated with low levels of breast cancer screening in developing countries.[10] A significant proportion of the women in the present study reported they were afraid of discovering that they had cancer, and embarrassment by the screening was a personal barrier.[10]

Although the findings of this study have limitation for generalizability due to a single-center study, it highlights a particular challenge for public health to decrease the barriers in the early detection of breast cancer among Indian women.

Our study found the existence of multiple barriers in the early diagnosis of breast cancer in India. Some of the barriers were personal, whereas other barriers were related to family or society. Focused health teaching would be imperious to update women, specifically in rural areas. Different levels of a health service provider can execute the mass awareness program on warning signs of cancer including breast cancer. This will help in the early detection of breast cancer.

Limitation

The study has been conducted in single center. Statistical

Table 4: Frequency and percentage distribution of socioeconomic barriers for early detection of breast cancer (n=202)

Areas	Barriers	Yes, frequency (%)
Economic barriers	Breast cancer is a burden to family	39 (19.3)
	Financial problems to pay for the examinations	110 (54.5)
Sociocultural barriers	Ashamed to face society	48 (23.8)
	Society has a negative attitude towards the cancer	56 (27.7)
	Society would reject the patient and her family	22 (10.9)
	Cancer is a communicable disease and spreads to others	36 (17.8)
	Embarrassing to consult doctor	55 (27.2)
	Hesitant to consult male doctor	42 (20.8)
	Cannot care family if diagnosed as breast cancer	33 (16.3)
Organization and health service barriers	Hospital is far from residence	105 (52)
	Nonavailability of doctors in nearby hospitals	34 (19.3)
	No female doctors in nearby hospitals	65 (32.2)
	Difficulty in communicating with the doctors	53 (26.2)
	No specialty hospital nearby for cancer treatment	69 (34.2)

analysis could be improved if we had a better study design. However, this study provides the researchers preliminary data to plan and implement a women health literacy campaign for the public on prevention and early detection of breast cancer.

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Conflicts of interest

There are no conflicts of interest.

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