



Original Research Article

Knowledge of Breast Cancer and Screening Practices among Women in Bindura District, Mashonaland Central Province, Zimbabwe

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ABSTRACT

Introduction: Breast cancer is one of the leading causes of death in developing as well as in developed countries. It is the second most common cancer accounting for 12.4% of the cases in black women in Zimbabwe, the highest being cancer of the cervix (30.2%).

Objective: To establish knowledge of breast cancer and screening practices among women in Bindura District.

Materials and Methods: A descriptive cross-sectional research study was conducted. The study sample consisted of 232 consenting women who were selected from Chipadze and Chiwaridzo Council Clinics in Bindura District using simple random sampling method. Data were collected by face to face interviews using a questionnaire. Data were processed using Statistical Package Social Sciences (SPSS) software version 16, 2012 and analyzed descriptively.

Results: Data revealed that 78.4% of the respondent had heard of breast cancer, 24.6% had an in-depth understanding of breast cancer, 97% could not correctly identify risk factors for breast cancer, 60.3% had never heard of breast self examination (BSE) and only 3% knew how often BSE is done. Only 0.9% of the respondents had gone for mammography. Breast cancer knowledge level was very low as only 4.7% of the respondents had moderate knowledge scores of 18 to 26.

Conclusion: Breast cancer knowledge level was very low and screening practices were very poor. Therefore, health care providers need to intensify awareness on breast cancer through health education across all age groups including women in rural areas. The government should also make mammography screening available and accessible at most health care facilities for free if possible or subsidized price for the low income women.

Key words: Knowledge, breast cancer; risk factors, breast self examination, mammography

INTRODUCTION

Breast cancer is the top cancer in women worldwide and is increasing, particularly in developing countries where the majority of cases are diagnosed in late stages.^[1] Most of the total deaths from the disease are accounted for in the developing

world. As developing countries grow and adopt Western culture they also accumulate more disease that has arisen from Western culture and its habits (fat/alcohol intake, smoking, exposure to oral contraceptives, the changing patterns of childbearing and infant feeding, and low parity). In 2008,

breast cancer caused 458,503 deaths worldwide, 13.7% of cancer deaths in women. It is not only women who suffer from breast cancer; about 1% of males are also affected. This makes breast cancer more than 100 times more common in women than in men though males tend to have poorer outcomes due to delays in diagnosis. [2]

According to figures from the Zimbabwe National Cancer Registry (2010), cancer incidence in the country has increased from 2 718 in 2008 to 3 519 in 2009 before soaring by more than 1 000 to 4 520 in 2010. Furthermore, the Zimbabwe National Cancer Registry, statistics breast cancer accounts for 12.4% of the cases among Zimbabwean black women. It is the second most common cancer in black women in Zimbabwe, the highest being cancer of the cervix (30.2%). [3]

Numerous health promotion materials on breast cancer risk factors and breast self-examination have been developed in the form of posters, fliers, pamphlets, as well as books. Despite all these efforts, the disease remains a major public health problem among Zimbabwean women. It has been noted with concern that most patients in Zimbabwe tend to present to the health service provider when the cancer is very advanced and curative treatment can no longer be offered. [3] The reasons for this late presentation are unknown. Early detection through breast self examination, regular clinic checkups and mammography could easily reduce the proportion of women who die from breast cancer every year. [4]

The low survival rates in less developed countries may be explained mainly by lack of early detection programmes, lack of adequate diagnosis and treatment facilities which results in a high proportion of women presenting with late stage disease. [5] For primary prevention of breast cancer, women need to be adequately

informed about risk factors and risk reduction strategies for breast cancer. Established risk factors for breast cancer include: gender, increasing age, race/ethnicity, weight, tall stature, increased estrogen exposure, breast density on mammography, high bone density, family history, exposure to ionizing radiation, alcohol and smoking. [6]

A study conducted in Oxfordshire, England revealed that women's knowledge about breast cancer screening was variable and sometimes incorrect, and those with less formal education were more likely to have inaccurate knowledge. [7] A study conducted in Iran with 120 women revealed that knowledge and attitude of Iranian women about breast cancer screening and the signs of breast cancer are very low. [8] Another study done to determine the knowledge of breast cancer screening and prevention among Arab-American women in Michigan revealed that the women had substantial increase in knowledge about breast cancer and screening following the educational intervention regardless of their language preference. The educational program improved women's knowledge of BSE especially those women with higher education. The study concluded that consideration of women's educational status is an important factor in planning educational programs to improve knowledge on breast cancer screening and prevention in the minority population. [9]

A study conducted in Malaysia revealed high awareness but unsatisfactory knowledge on breast cancer among Malaysian women. There were varied levels of knowledge on the risk factors and symptoms of breast cancer; some risk factors were well known while others were not. Knowledge on breast cancer was low among young and less educated women. Furthermore, the study found a low awareness of mammography among women.

^[10] In a study in Eastern Nigeria with married women, the vast majority (97%) had heard of cancer of the breast. Seventy-eight percent (78%) of the respondents practised breast self-examination regularly but only 34% of them knew the reason for practising breast self-examination regularly and hence the breast self-examination was generally ineffective. Only 3% of the respondents knew about a mammogram whilst none had had a mammogram done in the past. Knowledge and practice of breast self-examination was positively associated with highest educational level attained. ^[11]

Furthermore, a study conducted in Akinyele Local Government Area, Ibadan, Nigeria revealed that only 54 (13.3%) of the participants claimed to have heard about breast self-examination (BSE) and the leading source of information about BSE were health workers. The study concluded that respondents lacked knowledge of vital issues about breast cancer and early detection measures. It also revealed that health workers were not forthcoming with information to the public thereby constituting a challenge to community health nurses and other health workers, to provide vital information to the public. ^[12]

A study done in Ghana revealed that the respondents had poor knowledge of breast cancer and the screening methods. There was also poor breast cancer screening practices among the women who participated. ^[13] Another study done in Tunisia revealed that 92% of participants had poor knowledge of the specific risk factors for breast cancer and 63.2% had poor knowledge of the screening methods. Proper practice of breast cancer screening was observed in 14.3% of cases. The researchers concluded that there was poor knowledge of breast cancer and the screening methods. The breast cancer screening practices were poor among women in the region of Monastir. ^[14]

A study conducted in South Dallas, Texas indentified lack of awareness, high cost, inavailability, and lack of transportation as major factors hindering from the women receiving a screening mammogram. ^[15] In another study done among African American and Caucasian women in Florida revealed that women felt that having a mammogram would be painful, and doing breast self examination (BSE) was time consuming, and some reported a lack of privacy. ^[16] Age, exercise and family history were reported to significantly influence the practice of BSE. Lack of knowledge, not having any symptoms and being afraid of being diagnosed with breast cancer were the main barriers to practising BSE. ^[17] Pain and embarrassment associated with screening mammography, low income and lack of health insurance, poor knowledge about breast cancer screening, lack of physician recommendation, lack of trust in hospitals and doctors, language barriers, and lack of transportation were the most frequently identified barriers to mammography screening. ^[18]

Numerous studies have been undertaken on breast cancer but there are very few studies that have been carried out in Bindura District, Mashonaland Central Province, Zimbabwe. Hence this study seeks to establish the knowledge levels of women in Bindura District with respect to risk factors and early detection of breast cancer so as to plan appropriate health promotion programmes.

MATERIALS & METHODS

Design and Sample

A cross-sectional descriptive study design was conducted at Chipadze and Chiwaridzo Council Clinics among women who were able to speak English and/or Shona. Shona is the vernacular language in the province. The permission to carry out the

study was granted by the Bindura Municipality Director of Health Services, Bindura University of Science Education Research Ethics Board. Simple random sampling was used to select participants. A total of 232 participants were recruited as they sought medical care from Chipadze and Chiwaridzo Clinics during the months of January to March 2013. The study purpose was explained and participants had the option to withdraw from the study anytime without victimization. An informed consent was sought either verbally or in written form after explaining the study to the subjects. A questionnaire developed from relevant literature was used to obtain data. Each questionnaire had three sections: Section A: socio-demographic data, section B: knowledge of breast cancer and section C: perception of the risk of developing breast cancer. The knowledge of breast cancer was measured through an assessment of the participants' level of knowledge on what breast cancer is and the risk factors. The highest score for the breast cancer knowledge was 36 according to the designed breast cancer knowledge measuring instrument. A score of 17 and below indicated low levels of knowledge of breast cancer, a score of 18 - 26 indicated moderate levels of breast cancer knowledge and a score of 27 -36 indicated a high knowledge levels of breast cancer.

Data Collection and Analysis

Data was collected from Monday to Friday from 10:00 to 13:00 hours in consultation and counseling rooms to ensure privacy. Code numbers were used on the questionnaires to ensure confidentiality. The forms were locked up in a cabinet; only the investigators had access to the data collected. The questionnaires were destroyed after data analysis. Ten patients who met the inclusion criteria answered the questionnaires to determine clarity of the terms and consistency of responses at

Bindura Provincial Hospital Outpatients Department in the pilot study. Possible data analysis procedures were tested in the pilot study. No modifications and corrections were made after the pilot study. Statistical Package for Social Science (SPSS version 16; 2012) was used to analyze the data.

RESULTS

Two hundred and thirty-two (232) respondents were interviewed. The mean age of the respondents was 30 years with a standard deviation of 9 years. The majority of the respondents 128(55.2%) were in the age category of 18-30 years (Table 1). The majority of the respondents 197 (84.9%) were from the urban area, 175(75.4%) had secondary education, 149(64.2%) had no income with 68(29.3%) being housewives and 76(32.8%) being unemployed (Table 1).

Breast Cancer Knowledge

Table 2 shows that 182(78.4%) of the respondents had heard of breast cancer and 50(21.6%) had not. The major sources of information cited being health care providers 70(30.2%), friends 42(18.1%) and the radio 26(11.2%). One (0.4%) respondent cited cancer awareness campaigns as a source of information. The majority of the respondents 161 (69.4%) did not know the factors leading to breast cancer and only 7(3%) cited processed foods (Table 2). Knowledge of breast cancer was significantly associated with age ($p=.004$, $p<.005$), educational level ($p=.000$, $p<.005$) and income ($p=.000$, $p<.005$.)

Breast Cancer Screening (Table 3)

The majority of the respondents 140 (60.3%) had not heard of BSE and of the 92(39.7%) respondents who had heard of BSE, 69(29.7%) knew how BSE is performed and 58(25%) reported that they can perform BSE. Furthermore, 49(21.1%) of the respondents did not know how often BSE should be done and only 7(3%) correctly identified that BSE should be done

once every month. Only 2(0.9%) of the respondents had undergone mammography (Table 3). The reasons cited for not undertaking mammography screening were: lack of awareness 230(99.1%), lack of money and inavailability 2 (0.9%).

Table 1: Demographic Variables (N=232)

Variable	Frequency (n)	Percentages (%)
Age category (years)		
18-30	128	55.2
31-43	88	37.9
44-56	13	5.6
57-69	3	1.3
Educational Level		
Did not attend school	5	2.2
Primary	51	22.0
Secondary	175	75.4
Tertiary	1	0.4
Occupation		
Student	4	1.7
Housewife	68	29.3
Not employed	76	32.8
Self employed	71	30.6
Formal employment	13	5.6
Area of Residence		
Urban	197	84.9
Farming	26	11.2
Mining	9	3.9
Income (US\$)		
No income	149	64.2
1 – 200	70	30.2
201 – 400	7	3.0
401 – 600	4	1.7
601 – 800	2	0.9
Total	232	100.0

Table 2: Breast Cancer Knowledge (N=232)

Variable	Frequency (n)	Percentage (%)
Ever heard of Breast cancer		
No	50	21.6
Yes	182	78.4
Risk for Breast Cancer		
Do not know	161	69.4
Correct	7	3.0
Incorrect	64	27.6
Earliest sign of breast cancer		
Do not know	114	49.1
Correct	63	27.2
Incorrect	55	23.7
Total	232	100.0

Perception of Risk of Breast Cancer (Table 4)

Twenty-four (23.5%) of the respondents had blood relatives who had suffered from breast cancer and 2 (0.9%) had suffered from breast cancer and were being treated. The majority of the

respondents 123(53%) did not think that they can develop breast cancer, the major reasons cited being failure to understand the condition (33.6%) and having no signs and symptoms of the disease (10.8%). Only 5(2.2%) of the respondents could link their perception of having breast cancer with having a blood relative (family history) who had suffered from breast cancer. The majority of the respondents 196(84.5%) reported that they would go to the hospital to see a doctor if they suspect having breast cancer (Table 4).

Table 3: Breast Cancer Screening

Variable	Frequency (n)	Percentage (%)
Ever heard of BSE		
Yes	140	60.3
No	92	39.7
Total	232	100
Ever heard how BSE is performed		
Yes	69	29.7
No	23	9.9
Total	92	39.7
How often BSE should be done		
Do not know	49	21.1
Correct	7	3.0
Incorrect	36	15.6
Total	92	39.7
Can you Perform BSE		
Yes	58	25.0
No	174	75.0
Ever heard of Mammography		
Yes	2	0.9
No	230	99.1
Ever gone for mammography		
Yes	2	0.9
No	230	99.1
Total	232	100.0

Relationship between knowledge and performing BSE

There was a significant association ($p < 0.000$; $*p \leq 0.05$) between knowledge of breast cancer and performance of BSE (Table 5).

Knowledge Scores

Table 6 shows results on total breast cancer knowledge scores as well as a summary of breast cancer knowledge level. Breast cancer knowledge scores ranged from 0 to 26 out of a possible total of 36. The

majority 221(95.3%) of the respondents demonstrated low levels of knowledge on breast cancer by scoring below the mean score of 18 and only 11 (4.7%) demonstrated moderate to high level of breast cancer knowledge by scoring a score of 18 and above (Table 6).

Table 4: Perception of Risk of Breast Cancer

Variable	Frequency (n)	Percentage (%)
Relationship to the person who had breast cancer		
No	78	33.6
Blood Sister	3	1.3
Cousin sister	2	0.9
Grandmother	4	1.7
Biological mother	2	0.9
Aunt	7	3.0
Mother's sister	5	2.2
Self	2	0.9
Grandfather	1	0.4
Total	102	44
Think you can develop breast cancer		
No	123	53.0
Yes	109	47.0
Action to take when you suspect breast cancer		
Do not know	35	15.1
Go to the hospital to see a doctor	196	84.5
Go to Traditional healer	1	0.4
Total	232	100.0

Table 5: Relationship between knowledge and performing BSE (N=232)

Chi-Square Tests (χ^2)	Value	df	Significance
Pearson Chi-Square	1.646E2	44	0.000
Likelihood Ratio	171.541	44	0.000
Valid Cases(n)	232		

Table 6: Knowledge Scores (N=232)

Score	Frequency (n)	Percentage (%)
0 – 17 (< mean of 18)	221	95.3
18 – 26 (\geq mean of 18)	11	4.7
27 – 36 (\geq moderate score)	0	0.0

DISCUSSION

Results revealed that the majority of the respondents (69.4%) did not know the risk factors for breast cancer while the other respondent incorrectly identified putting money and cell phones in the bra 27.2% as risk factors. Only 3% correctly cited processed foods as one of the risk factor for breast cancer. This means that health care providers need to provide accurate

information on risk factors of breast cancer so as to clear all these misconceptions. This is in agreement with a study conducted in Nigeria, Abuja which revealed poor knowledge of breast cancer and its associated risk factors, and poor practice of BSE. [5]

The majority of the respondents who had heard of BSE were from the urban area and were the ones who reported being able to perform the BSE. This means that health care providers should conduct outreach programs to cater for women in rural areas. Although the majority of the respondents 182 (78.4%) had heard of breast cancer, 161 (69.4%) did not know the risk factors for breast cancer, 114 (49.1%) could not cite the earliest signs and symptoms of breast cancer, with only 63 (27.2%) identifying correctly the lump as earliest sign. This is consistent with a study conducted on Iranian women who revealed very low knowledge on breast cancer screening and the signs of breast cancer. [8]

The major sources of information cited being health care providers 70 (30.2%), friends 42 (18.1%) and the radio 26 (11.2%). Cancer awareness campaigns were reported by only 1(0.4%) respondent. This shows that health care providers are not actively involved in breast cancer awareness campaigns.

Knowledge on BSE practice was highly associated with educational level ($p=0.04$; $*p<0.05$). This is consistent with previous studies conducted in Malaysia and Nigeria which reported that knowledge and practice of breast self-examination was positively associated with educational level attained. [8,9] Knowledge on breast cancer risk factors was highly associated with the level of education ($p=0.000$; $*p<0.05$) which means the less educated were less knowledgeable. Furthermore, those young (18-30 years) were less knowledgeable with 127(55%) scoring below the mean score on

the knowledge scores. This concurs with findings on a study conducted among Malaysian women which revealed that knowledge on breast cancer was low among young and less educated women. [10]

The majority 221(95.3%) of the respondents demonstrated low levels of knowledge on breast cancer by scoring below the mean score of 18 and only 11 (4.7%) demonstrated moderate level of breast cancer knowledge by having a mean score of 18 - 26. None of the respondents had a knowledge score of 27 – 36 regarded as a high score. These findings revealed very low knowledge levels on breast cancer. The results concur with previous studies which revealed low knowledge on breast cancer. [11,12]

The majority of the respondents 140 (60.3%) had not heard of BSE and of the 92(39.7%) who had heard of BSE, 69(29.7%) knew how BSE is performed and 58(25%) reported that they can perform BSE. This shows that BSE awareness is poor. This is in agreement with previous studies which revealed poor breast cancer screening practices. [11,12] Furthermore, only 2(0.9%) had undergone mammography during their treatment for breast cancer and after treatment they did not go for routine screening citing lack of money and inavailability as mammography screening is not available at local clinics but at tertiary institutions at a higher cost as previously reported. [15-18] However, the majority 230(99.14%) of the respondents had not heard of mammography neither did they go for mammography screening. This shows very low coverage of mammography. Therefore, healthcare providers need to intensify health education on breast cancer and the screening practices among women. On the other hand the government should avail mammography screening at most healthcare facilities at a subsidized fee to cater for low income women.

The perception of being at risk of breast cancer was poor as 123(53%) of the respondents did not think that they can develop breast cancer. Only 5(2.2%) of the respondents could link their perception of having breast cancer with having a blood relative (family history) who had suffered from breast cancer. Therefore, healthcare workers should strengthen health education emphasizing on the risk factors for breast cancer including family history. Furthermore, women should be sensitized on the fact that absence of signs and symptoms of the disease does not mean absence of breast cancer hence the need for routine breast cancer screening.

CONCLUSION

Breast cancer knowledge level was very low and screening practices were very poor. Therefore, health care providers need to intensify awareness on breast cancer through health education across all age groups including women in rural areas. The government should also make mammography screening available and accessible at most health care facilities for free if possible or subsidized price for the low income women.

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