

## Knowledge and Self-Reported Practices towards Breast Self-Examination among Women of Child-Bearing Age in Luanshya District of Zambia

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### ABSTRACT

**Background:** Breast cancer is the most frequently diagnosed malignancy among women in the world. In Zambia, it is the second common cancer among women after cervical cancer.

Diagnostic methods for Breast Cancer include Breast Self-Examination, Clinical Breast Examination and Mammography for women above 40 years of age. While Clinical Breast Examination and Mammography are performed by health care providers, Breast Self-Examination is performed by the individual woman.

**Materials and Methods:** This was a cross sectional correlation study. It was conducted in Mikomfwa area of Luanshya district on the Copperbelt Province of Zambia on women of childbearing age from 18 to 45 years. A sample of 92 women was randomly selected and data was collected using an interview-administered questionnaire. Data was analyzed using SPSS version 24 through which descriptive statistics were generated. A chi-square test was used to determine the association between practices of Breast Self-Examination and the level of knowledge and other socio-demographic variables among women who participated in the study.

**Results:** A good number (39.1%) of participants did not have any information about Breast Self-Examination while 60.9% had information prior to the study. At least 59 (60.7%) knew that Breast Cancer can be detected through Breast Self-Examination. Among those, 56 (60.9%) that had information about Breast Self-Examination, the majority 30(53.6%) had adequate knowledge on Breast Self-Examination while 26 (46.4%) expressed inadequate knowledge. Similarly, out of the 56 who had information about Breast Self-Examination only 30 (53.6%) had good practice and 26 (46.4%) had poor practices. However, there was no significant association observed between knowledge of Breast Self-Examination and self-reported practices

**Conclusion:** The findings of this study revealed that majority of the women had adequate knowledge of Breast Self-Examination but the practice of Breast Self-Examination were low. We recommended intensified self-awareness campaigns, as Breast Self-Examination is important for early diagnosis of breast cancer.

### Keywords

Breast Cancer, Breast Self-Examination, Knowledge, Self-reported Practices.

### Background

Breast Cancer is a global health concern and a leading cause of morbidity and mortality among all the cancers that affect women. It is the most frequently diagnosed malignancy among women in the world with an estimation of 1.67 million new diagnoses

worldwide in 2012 representing about 12% of all new cancer cases and 25% of all cancers in women. In Zambia, Breast Cancer is the second common cancer among women after cervical cancer representing 8% of total cancer cases seen at the only national Cancer Diseases Hospital (CDH) with an age-adjusted rate of 45 years [1].

Diagnostic methods for breast cancer include Breast Self-Examination (BSE), clinical breast examination and mammography for women above 40 years of age [2]. While clinical breast examination and mammography are performed by health care providers, BSE is performed by the individual woman. BSE is a screening method used to detect early breast cancer [3]. It involves the woman herself looking at and feeling each breast for possible lumps, distortions or swelling or it involves the woman examining her breast regularly and at specified intervals monthly after one or two days of her menstrual period when the breast are not tender or swollen [4]. BSE is a low-cost, low-risk, self-performed screening, which, according to the evidence from the literature improves the prospects for women's survival [5].

Women can always perform Breast Self-Examination to detect any changes with their breasts. Ringash and Canadian Task Force on Preventive Health Care cited in Sakine et al. [6] stated that most breast cancer masses are detected by women themselves. This examination allows women to discover breast cancer tumors of about 1 cm. In this way, avoid going to the doctor with tumors bigger than 5cm, which unfortunately is present in 85% of patients in specialized care [7,8].

Screening for early detection and diagnosis of diseases and health conditions is an important public health principle. For Breast Cancer, BSE is still recommended as a general approach to increasing breast health awareness and thus potentially allow for early detection of any abnormalities because it is free, non-invasive, painless and easy to practice [9]. One of the best ways of ensuring earlier detection of breast cancer in women is for them to be breast aware. This entails understanding and knowing how their breasts look and feel like under normal circumstances, so that they are able to seek early medical advice if they identify any changes in either of their breasts.

Despite BSE being a free and convenient technique, according to literature most women do not perform BSE [10]. Some reasons that have been forwarded include women generally believing to be at low risk of breast cancer (even with a positive family history), and fear of breast cancer. Young "liberated" women often believe that older women are more at risk, shackled by archaic convention, women dislike self-examination because it requires touching one's own body, an act bordering on sinfulness for those who are religious [11].

This study therefore sought to evaluate the knowledge and self-reported practices of BSE among women of childbearing age in Mikomfwa Township of Luanshya

## Materials and Methods

### Study design and setting

The study utilized a cross sectional correlation design. The study was conducted in Mikomfwa area of Luanshya district on the Copperbelt Province of Zambia. Mikomfwa is a middle-class residential neighborhood with clusters of upscale residences. The area is highly populated and has two health facilities of which one is a maternity/delivery center, which offers reproductive health services. The area also has a high number of women of child bearing age.

### Study Population and Sample

The study population involved women of childbearing age from 18 to 45 years who are residents of Mikomfwa. A sample of 92 women was randomly selected from among women who reside in the area of interest based on the inclusion criteria of being 18 years to 45years old and with no history of benign or malignant breast disease.

### Data Collection and Analysis

Data was collected using an interviewer administered questionnaire and analyzed using SPSS version 24. Data was analyzed to generate descriptive statistics. A chi-square test was used to determine the association between practices of BSE and the level of knowledge and other socio-demographic variables among women who participated in the study.

## Results

**Table 1:** Demographic Characteristics (n = 92).

Age	Frequency	Percentage (%)
18 to 25	27	29.3
26 to 35	46	50.0
36 to 45	19	20.7
<b>Total</b>	<b>92</b>	<b>100.0</b>
<b>Religious</b>		
Christianity	91	98.9
Muslim	1	1.1
<b>Total</b>	<b>92</b>	<b>100</b>
<b>Educational Level</b>		
Primary	16	17.4
Secondary	41	44.6
Tertiary	34	37.0
None	1	1.1
<b>Total</b>	<b>92</b>	<b>100</b>
<b>Occupation</b>		
Still at School	15	16.3
Self-employed	23	25.0
Housewife	31	33.7
Civil Servant	14	15.2
Privately Employed	9	9.8
<b>Total</b>	<b>92</b>	<b>100</b>

Half (50%) of the women who participated were aged between 26-35 years, almost all were Christian, majority had secondary level of education, and mostly they were either housewives or self-employed.

**Table 2: Information about Breast Cancer**

Heard about Breast Cancer	Frequency	Percentage (%)
Yes	86	93.5
No	6	6.5
<b>Total</b>	<b>92</b>	<b>100</b>
<b>Source of Information</b>		
Media	25	29.1
Friends	17	19.8
Relatives	5	5.8
Health Staff	39	45.3
<b>Total</b>	<b>86</b>	<b>100</b>
<b>Information that breast Cancer Affects women</b>		
Yes	63	68.5
No	29	31.5
<b>Total</b>	<b>92</b>	<b>100</b>

Only 6.5% of the women had never heard about breast cancer prior to the study, with almost half (45.3%) having received the information from health staff. More than two-thirds (68.5%) knew that breast cancer affect women.

**Table 3: Knowledge about Breast Cancer.**

Information on causes of breast cancer	Frequency	Percent
Yes	10	10.9
No	82	89.1
<b>Total</b>	<b>92</b>	<b>100</b>
<b>Signs of Breast cancer</b>		
Abnormal Lump	24	26.1
Enlargement of the Breast	19	20.7
Changes in skin of the Breast	12	13.0
Blood from the nipple	13	14.1
Skin turns orange peel	8	8.7
I don't Know	16	17.4
<b>Total</b>	<b>92</b>	<b>100</b>
<b>Symptoms of Breast Cancer</b>		
Pain on the affected Breast	49	53.3
Changes in the shape of the breast	14	15.2
Others	2	2.2
I don't Know	27	29.3
<b>Total</b>	<b>92</b>	<b>100</b>
<b>Detection of Breast Cancer</b>		
Clinical Screening	61	67.4
Self-Examination	21	22.8
Witch-doctor	1	1.1
I don't Know	8	8.7
<b>Total</b>	<b>92</b>	<b>100</b>

Majority of the participants (89.1%) indicated that they did not know the cause of breast cancer. Regarding signs of breast cancer, only 17.4% did not know any sign of breast cancer while the rest knew at least one sign while the commonest symptom of breast cancer was pain as mentioned 53.3% of the participants. As regarding detection of breast cancer, only 22.8% knew it could be detected by self-examination, majority (67.4%) indicated clinical examination while 8.7% didn't know.

**Table 4: Information about Breast Self-Examination.**

Information about breast self-examination	Frequency	Percentage (%)
Yes	56	60.9
No	36	39.1
<b>Total</b>	<b>92</b>	<b>100</b>
<b>Sources of Information</b>		
Media	12	21.4
Friends	10	17.9
Relatives	4	7.1
Health Staff	30	53.6
<b>Total</b>	<b>56</b>	<b>100</b>
<b>Early Detection by BSE</b>		
Yes	34	60.7
No	22	39.3
<b>Total</b>	<b>56</b>	<b>100</b>
<b>Age at first BSE</b>		
At 18 years	28	50.0
After first child	19	33.9
At 30 years	9	16.1
<b>Total</b>	<b>56</b>	<b>100</b>

A good number (39.1%) didn't have any information about breast self-examination prior to the study. While those who had information about half (53.6%) got the information from health staff, and 60.7% knew that breast cancer can be detected through BSE. At least half of those who had information knew the correct age to start BSE.

**Table 5: Performance of BSE.**

BSE performance	Frequency	Percent
Yes	30	53.6
No	26	46.4
<b>Total</b>	<b>56</b>	<b>100</b>
<b>Frequency of conducting</b>		
Daily	6	20.0
Weekly	5	16.7
Monthly	8	26.7
Yearly	11	36.6
<b>Total</b>	<b>30</b>	<b>100</b>
<b>Timing of Performing BSE</b>		
A regular day of each month	7	23.3
Within 5 days after menstruation	9	30.0
Not on a regular day of each month	8	26.7
Same time each day	6	20.0
<b>Total</b>	<b>30</b>	<b>100</b>
<b>BSE Methods</b>		
Palpating	12	40.0
Touching	10	33.3
Feeling the breast	5	16.7
Others	3	10
<b>Total</b>	<b>30</b>	<b>100</b>
<b>BSE performance Location</b>		
In front of a mirror	8	26.7
Lying on the bed	12	40.0
In the bathroom	6	20.0
In any position	4	13.3
<b>Total</b>	<b>30</b>	<b>100</b>

Reasons for not performing BSE	Frequency	Percent
Religion	5	8.1
Culture	3	4.8
Ignorance	36	58.1
Attitudes	18	29.0
<b>Total</b>	<b>62</b>	<b>100</b>

Out of the 56 participants who had information about breast self-examination, only 56.3 were performing BSE, out of which, only 26.6 were performing it as recommended (every month) and none of them mentioned the correct timing. Different methods of BSE were mention and palpation (40%), touching, (33.3%), feeling the breast (16.7%) and others. For those who didn't perform BSE, majority (58.1%) mention ignorance as the cause.

**Table 6:** Level of Knowledge on BSE, Self-reported Practices.

S/N	Description	Rating	Frequency	Percentage (%)
<b>Knowledge of BSE</b>				
	Inadequate	0 – 5	26	<b>46.4</b>
	Adequate	6 – 10	30	<b>53.6</b>
Total			<b>56</b>	
<b>Self-reported practices</b>				
	Poor	0 – 4	26	<b>46.4</b>
	Good	5 – 10	30	<b>53.6</b>
Total			<b>56</b>	

Table 6 shows that 53.6% of participants had adequate knowledge of BSE while 46.4 % had inadequate knowledge. Results for self-reported practices also show that 53.3% were practicing BSE correctly, and a larger portion, 46.7% were performing BSE wrongly.

**Table 7:** Relationship between knowledge of BSE and self-reported practices (n = 56).

	Knowledge of Breast Self-Examination			P Value
	Adequate Knowledge	Inadequate Knowledge	Total	
<b>Self-Reported practices</b>				
<b>Poor practices</b>	14 (53.8%)	12 (46.2%)	26 (46.4%)	
<b>Good practices</b>	16 (53.3%)	14 (46.7%)	30 (53.6)	
<b>Total</b>	30 (53.6%)	26 (46.4%)	56 (100%)	0.09

Among the 26 respondents who showed poor practices, 53.8% had adequate knowledge while 46.2% had inadequate. Out of the 30 respondents who showed good practices, 53.3% had adequate knowledge while 46.7% had inadequate knowledge. However, knowledge of breast self-examination was not significantly associated with self-reported practices of BSE (p value = 0.09).

## Discussion

### Characteristics of the study sample

The study sample consisted of 92 women of childbearing aged from 18 to 45 years with no history of benign or malignant breast disease. The important socio demographic characteristics in this study included age, religion, education attained and occupation (Table 1). As for the association between age and BSE, the women

who self-explored the most were those between the ages of 18 and 35, with 50%, and those who self-explored the least were those between the ages of 36 and 45. This finding is in contrast with that of Dewi et al., 2019 & Hailu et al., 2014 [12,13], that cited that an older age (above 40 years) was positively correlated with performing BSE in this sample. Most of the participants attained secondary (44.6%) and tertiary (37%) education, the reason could be that they were more informed of the need to seek health care and had resources to use to get the medical attention they required. This finding is in support with the study that was conducted by Valderrann-Urreta et al., 14] which indicated that a higher level of schooling increased breast self-exploration practice. Majority 91 (99%) of the respondents were Christian, this finding is similar to that of Valderrann-Urreta that established an association between BSE and sociodemographic variables, marital status, religion, schooling and socioeconomic status to be statistically significant (p < 0.05). These findings indicate that some social and demographic aspects in the population may contribute to the use of BSE, which allows for early cancer identification.

### Knowledge of Breast Self-Examinations among the Women

With regards to BSE knowledge, Majority of the participants (89.1%) indicated that they did not know the cause of breast cancer implying a lack of knowledge on BSE. As for the signs of Breast Cancer, most of the participants indicated lump (26%), breast enlargement (20.7), blood discharge (14.1), changes in breast skin (13%), and peel de orange (8.7%) as symptoms of Breast Cancer. However, 17.4% did not know the symptoms. As for the symptoms, most of the participants indicated pain (53.3%), Change in symmetry (15.2%) and 29.3% did not know the symptoms of breast cancer. As regarding detection of breast cancer, only 22.8% knew it could be detected by self-examination, majority (67.4%) indicated clinical examination while 8.7% didn't know. This finding is in line with that of a previous study carried out on Malaysian women in Kuantan Pahang that indicated that breast health knowledge is still insufficient amongst the women. The lack of understanding of breast cancer and BSE could be attributed to a lack of information from the media, such as newspapers, periodicals, and television, as well as healthcare providers [15]. Another study that was conducted on Malaysian students by Akhtar-Zavare et al. [16], established lack of knowledge on BSE could be due to insufficient source of knowledge. Health promotion activities on BSE, such as offering training should be emphasized to boost women's confidence in performing BSE on their own, resulting in more regular practice of BSE. Having a good understanding of breast screening methods makes women more aware of any differences in their breasts [17], which encourages them to do it on a frequent basis [18]. This finding matches that of a recent study, which found that women with increased understanding of breast cancer were more likely to do BSE and have regular mammograms [19].

### Practice of Breast self-Examination among women

In developing countries with limited resources Breast Self-Examination is recommended as a screening method to detect abnormal breast lumps early [20]. With regards to information on Breast Self-Examination, from the 92 participants two thirds

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of the participants had information on BSE and half of these participants got the information from the health worker. Despite hearing about BSE majority of the participants do not actually perform it. The results also showed that among those that practice BSE, only 8 examine their breasts monthly while the others that practice preform at intervals not recommended. The results further show that women use different methods to examine their breasts of the 30 that practice BSE only 12 women less which is less than half of those that practice palpate their breasts, while 10 touch, 5 just feel for lumps and the remaining 3 examine their breast in undefined well. These results are similar to a systematic scoping review, which included 21 studies from the sub-Saharan region, the researchers concluded that the practice of BSE was a challenge.

The study reviewed that Breast self-examination practice was low among the women. Of the total 56 participants who had information on BSE only 30 had reported good practice on breast self-examination. The results were similar to a systematic review and meta-analysis on Self breast-examination practice among women in Africa, in the review 56 studies were included with 19,228 participants which reviewed that the pooled prevalence of ever and regular breast self-examination was 44% and 17% [21]. Self-reported practices of the participants who practiced BSE showed that only half had good practices. The finding was in contrast with the study done in Khartoum among 354 female prison inmates were 95% reported to have poor practice of BSE [22].

Others among those who stated they do not perform the BSE indicated that religion prevented them from performing it. The results show that a larger percentage were Christians. However, in both religions mentioned in the study, it is considered a taboo for any women to begin to touch oneself on the breast [23,24]. Others cited culture in which it is also a taboo for women to touch oneself. Others indicated it was just attitude towards BSE. Among those who have seen the benefit of BSE, indicated that they could recommend the BSE to others.

The knowledge of BSE may influence the practice of BSE among women. Findings of this study revealed that there is a significant positive association between the knowledge of BSE and the practice of BSE. This implies that as the knowledge of BSE among women increases the practice of BSE may be likely to increase also. However, this study finding show that 53.6% of women have adequate knowledge of BSE yet majority do not practiced BSE. This finding is in agreement with the findings of Okobia et al. [25] among women in Edo state of Nigeria, who reported that women who have adequate knowledge of BSE are more likely to practice BSE than women who have inadequate knowledge of BSE. The study findings of 46.4% not performing BSE may be due to attitudes and probably religion, as contributing factors. In a different study conducted by Sani and Yau [26], the findings showed that adequate knowledge of BSE does not reflect a direct response in practicing BSE. This observation is not in agreement with this study of the women in Mikomfwa. The women have shown an adequate knowledge of BSE and corresponding response in practicing BSE.

## Conclusion

The study findings revealed that majority of the women had adequate knowledge of breast self-examination but the practice was low. Therefore, we recommend that nationwide campaigns and educational programs on breast self-examination be implemented to increase early diagnosis of breast cancer and thus increasing the chances for successful treatment. In the present study most participants obtained information from the media and health staff with the later scoring the highest. Therefore, it is imperative that health staff members are updated with important health issues relating to breast cancer and breast self-examination that are not often a part of their source.

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