

## Knowledge attitude and practice of breast-self examination for early detectoin of breast cancer among women in roan constituency in luanshya, Copperbelt province, Zambia

Lombe Mumba Ramson \*

Copperbelt University School of Medicine, Nkana Road, P.O. Box 71191, Ndola 10101, Zambia

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### ABSTRACT

**Background:** Breast cancer is among the commonest causes of deaths among women in the world. It is becoming a major concern for many developing countries. Early detection of breast cancer remains a vital aspect to reducing mortality rates. Mammography is the only method that has been proven to be effective for early detection, but the method is very costly, and is only cost-effective and feasible in countries with good health infrastructure. Breast self-Examination (BSE) is the recommended method in developing countries because it is easy, convenient, safe and requires no specific equipment. This study was conducted to determine the knowledge, attitude and practice of breast self-examination (BSE), among women in Roan Township in Luanshya, Zambia. **Methodology:** The study was a cross sectional study done in Roan township in Luanshya, Zambia. It enrolled 351 women randomly from different households between the ages 18 and 65. Data was collected using a self-administered questionnaire and analyzed using SPSS statistical package version 20. **Results:** The proportion of women who had poor knowledge on Breast self-examination (BSE) was 169(48.1%) and those who had positive knowledge were 182(51%) of which 138(39.3%) had average knowledge and only 44(12.5%) had good knowledge. Television was cited as the main source of information on BSE by 34% of the respondents. The attitude toward BSE was good with 74.4% of respondents having a positive attitude and the mean attitude score was  $13.57 \pm 3.66$ . There was a statistically significant association between knowledge and attitude towards BSE ( $P=0.000$ ). Only 28.2%(99) of the participants actually practiced BSE of which only 42(12.0%) do it correctly with three fingers and palm monthly while. In 67% of participants, lack of knowledge on BSE was the main reason for not practicing BSE. A significant association ( $P=0.000$ ) was found between level of knowledge and practice of BSE. **Discussion:** Knowledge and practice of BSE was lowering comparison to the highly positive attitude by the majority of participants towards BSE. This indicated a great call for more intensified sensitization programs to address and improve the knowledge and with that, practice of BSE.

**Keywords:** BSE, mammography

### Introduction

Cancers are one of the leading causes of death worldwide. Despite some remarkable advances in early cancer detection, treatment and prevention, the incidence and mortality rates of all cancers have increased worldwide [1]. Cancers accounted for 13% of all deaths in 2008.

Breast cancer is among the commonest causes of deaths among women in the world. It is becoming a major concern for many developing countries [2], with its case detection and prevalence continuing to increase in Zambia [3]. In 2003, it was reported that most women in Zambia seek medical attention when the cancer is in the late stage [3,4]. Globally, about 25 million people are living with cancer of which breast cancer is the most common among women [5,6].

Mammography is the only method that has been proven to be effective for early detection, but the method is very costly, and is cost-effective and feasible in countries with good health infrastructure [7,8]. BSE

\*Correspondence

**Lombe Mumba Ramson**

Copperbelt University School of Medicine, Nkana Road, P.O. Box 71191, Ndola 10101, Zambia

**E Mail:** [lisalombemumba@gmail.com](mailto:lisalombemumba@gmail.com)

is the recommended method in developing countries because it is easy, convenient, safe and requires no specific equipment [9]. Breast self-examination is a monthly examination of the breast and underarm area that a woman can do physically or visually while she is looking and feeling for changes. Dorsay [10] defines breast self-examination as a method whereby a woman examines her breasts regularly and at specific intervals. When performing breast self-examination, premenopausal women should examine their breasts 5-7 days after the beginning of their periods while as menopausal women should perform BSE at the same date each month. Research has shown that there is an association between more favorable clinical and pathological stages of breast cancer with more frequent breast self-examination [11]. About 69% of women practicing BSE detect their tumors by this method and study has shown that 18.8-24.4 percent of breast cancers might be reduced by using a combined method of Breast self-examination and routine physical examinations [11]. The evidence of increased benign biopsy is evidence in its self of the value of BSE, considering that there are a number of cases in which breast cancer have been detected using BSE [12].

BSE for the early detection of breast cancer is not often done. In Zambia, a study done in Solwezi and Lusaka in Zambia, it was encountered that though a number of women had considerable knowledge on breast cancer, about 95% of women actually did not practice BSE [4]. Not much has been done towards promoting BSE and this study is aimed at adding to the already existing data and establish the knowledge, attitude and practice of BSE in Zambia's Roan constituency.

## Methodology

### Study design and site

The Study was conducted in Roan constituency in Luanshya on the Copperbelt Province of Zambia. It was done in a location with a second largest locality of female in Roan. It was a cross-sectional study in which women from different households were randomly sampled according to the inclusion criteria. The study excluded all women who were below 18 and those who were not willing to give consent. It also excluded women who were not residents of Roan constituency. The sample size was determined at 5% level of

significance and  $p= 50\%$  used in a previous study. The sample size came to 384.

### Data collection

Data was collected using a self-administered questionnaire. Participants were recruited from different households which were sampled randomly and copies of the questionnaire were handed to the respondents in person. Clearance and consent was sort from District authorities and Ethical Approval was obtained at Tropical Disease Research Centre (TDRC) at Ndola Teaching Hospital. Written consent was also obtained from the persons who wished to take part in the research. The questionnaires comprised 23 items, 7 knowledge questions, 9 attitude questions and 7 practice questions.

#### Knowledge on BSE

knowledge was assessed using 7 questions of which 6 were scored out of 1 for each correct response and one question was scored out of 2, 1 for each indicator. Assessment of level of knowledge was out of 100% and by using blooms classification, a score of less than 60% indicated poor knowledge while as a score of 60-100% indicates positive knowledge which was further classified as follows; 60-85% indicates satisfactory knowledge and a score of 86%-100% indicates good knowledge.

#### Attitude towards BSE

There were 9 attitude questions each having 3 indicators, Agree, not sure and Disagree. Attitude was scored out of 18. Each response in favor of BSE scored 2 while as not sure score 1. Each response not in favor of BSE scored 0. A score of 10-19 indicates positive attitude while as a score of 0-9 indicates negative attitude.

#### Practice of BSE

Practice was assessed with 7 questions indicating if the participant practices BSE and if yes, how they practice it.

#### Data Analysis

Data from the questionnaires was analyzed using statistical package for social sciences (SPSS) version 20.

### Results

The calculated sample size was 384 but a total of 351 questionnaires were completed. The response rate which is  $[(351/384) \times 100]$  came to 91.41%.

**Table 1: Social demographic of the participants**

	Percentage (%)
<b>Age</b>	49%
< 30	25.4%
30-39	12.8%
40-49	7.4%
50-59	5.4%
60+	
<b>Marital status</b>	
Married	42.7%
Single	42.5%
Divorced	4.3%
Widow	10.5%
<b>Women's occupation</b>	
Unemployed (House wife)	55.3%
Employed	14.2%
Student	12%
Self-employed (Business)	18.5%
<b>Education level</b>	
None	2.6%
Primary	23.9%
Secondary	47.3%
Tertiary	26.2%

As shown in the table above, the respondents were between 18 and 65 years of which the majority of participants were between the ages 18 and 29. The highest level of education attained by most participants was secondary school (47.3%) and most participants were unemployed (55.3%).

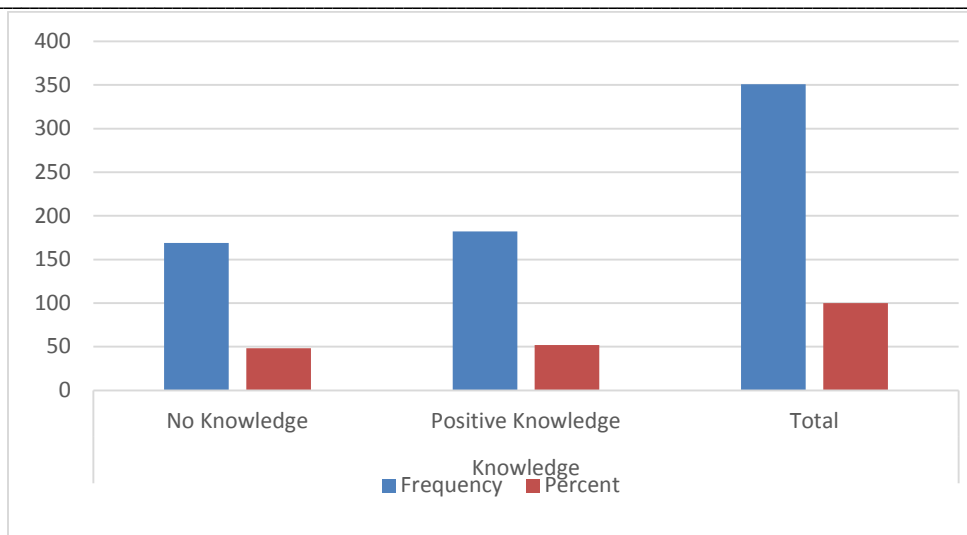
#### Knowledge on BSE

The proportion of participants that had good knowledge on Breast self-examination was 44 (12.5%) while as 138 (39.3%) had average knowledge and 169 (48.1%) had poor knowledge of BSE. Of the participant, 41.6% had heard of BSE and of these, the

mean age at which they heard about BSE was 24.82 ± 8.9 year. The primary source of information on BSE was on TV cited by 34.3% followed by health facilities (Hospitals & Clinics) with 22.4% of participants. Other sources (mostly from Radio, friends and family) accounted for 32.8%. 61.3% were aware that early detection of breast cancer can improve survival and 77.2% knew that breast cancer affects all age groups especially the elderly. Only 20.2% (71) responded that both males and female should practice BSE. 224 participants (63.8%) responded that BSE is very expensive and only 36.2% (127) were aware that BSE is not expensive.

**Table 2: Participants knowledge of breast self-examination**

Indicator	Response	
	Yes n(%)	No (%)
Have you heard of breast cancer?	347 (98.9%)	1.1%
Is breast cancer common in our population?	219 (64%)	36%
Can early detection of breast cancer improve survival?	215(61.3%)	38.7%
Have you heard of breast self-examination?	146 (41.6%)	58.4%
Is breast self-examination expensive?	224 (63.8%)	36.2%
Who should practice breast self-examination?	0%	100%
- Men	159 (45.3%)	54.7%
- women	71 (20.2%)	79.8%
- Both	121 (34.5%)	65.5%
- Not sure		



**Fig 1: Knowledge on Breast Self-Examination**  
**Table 3: Knowledge on Breast self-examination**

Knowledge	Number	Percentage
Poor Knowledge	169	48.1%
Average knowledge	138	39.3%
Good Knowledge	44	12.5%
Total	351	100.0%

**Table 4: Association of Knowledge on Breast self-examination with other factors**

Factor	Knowledge		P Value
	No (Poor)	Yes(Positive)	
<b>AGE</b>			0.581
< 30 (52.3%)	82(47.7%)	90	
30-39 (49.4%)	45(50.6%)	44	
40-49 (51.1%)	22(48.9%)	23	
50-59 (65.4%)	9 (34.6%)	17	
60+ (42.1%)	11(57.9%)	8	
<b>MARITAL STATUS</b>			0.069
Single (45.0%)	82 (55.0%)	67	
Married (59.3%)	61(40.7%)	89	
Divorced (40.0%)	9 (60.0%)	6	
Widow (54.1%)	17 (45.9%)	20	

HIGHEST LEVEL OF EDUCATION			0.001
None	6 (66.7%)	3 (33.3%)	
Primary	25 (29.8%)	59 (70.2%)	
Secondary	91 (54.8%)	75 (45.2%)	
Tertiary	47 (51.1%)	45 (48.9%)	
OCCUPATION			0.111
Unemployed	84 (43.3%)	110 (56.7%)	
Employed	30 (60.0%)	20 (40.0%)	
Student	24 (57.1%)	18 (42.9%)	
Business (Self-employed)	31(47.7%)	34 (52.3%)	
ATTITUDE			0.000
Positive	101(38.7%)	160(61.3%)	
Negative	68(75.6%)	22 (24.4%)	

Table 5: Bivariate Analysis of factors associated with Knowledge on Breast self-examination

Factor	Knowledge		95% C.I./ EXP(B)	
	No (Poor)	Yes(Positive)	Lower	Upper
HIGHEST LEVEL OF EDUCATION				
None	6 (66.7%)	3 (33.3%)	1	1
Primary	25 (29.8%)	59 (70.2%)	0.104	2.047
Secondary	91 (54.8%)	75 (45.2%)	1.181	4.345
Tertiary (48.9%)	47 (51.1%)	45	0.513	1.503
ATTITUDE TOWARDS BSE				
Positive	101(38.7%)	160(61.3%)	0.124	0.371
Negative	68 (75.6%)	22 (24.4%)	1	1

#### Attitude towards BSE

Attitude towards BSE was scored out of 18 with a score of 0-9 being negative attitude and a score of 10-18 being positive attitude. Overall, the mean score out of 18 for attitude towards BSE was  $13.57 \pm 3.66$ . 74.4% of the participants had a positive attitude

towards BSE while as 25.6% had a negative attitude towards it. Table 6 below shows the indicators for attitude. Most participants with positive knowledge of BSE had a positive attitude towards it and this recorded a significant association between attitude and knowledge (table 4).

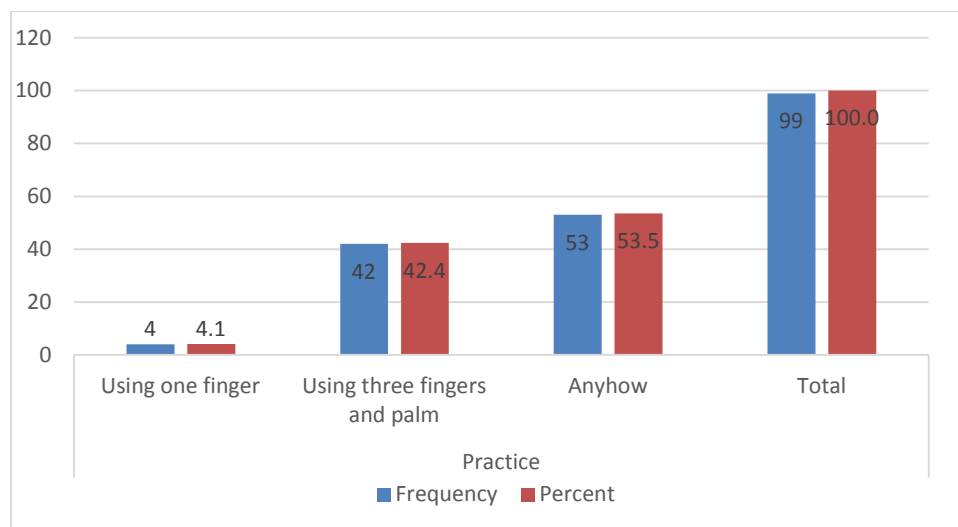
Table 6: Attitude towards BSE

Indicator	Response		
	Agree n (%)	Not sure n (%)	Disagree n (%)
Should all women in should do breast self-examination?	61.9%	35.2%	2.9%
Can breast self-examination help in early detection of breast cancer?	62.1%	35.9%	2%
Doing breast self-examination embarrassing for me.	5.4%	26.8%	67.8%
Am afraid of doing breast self-examination because it is painful.	0%	45.6%	54.4%
Am afraid of doing breast self-examination because I might detect breast cancer.	6.0%	39.9%	54.1%
Am not just interested in doing breast self-examination.	6.0%	31.1%	63.0%
I don't have to do breast self-examination because am healthy.	25.4%	20.2%	54.4%
I don't have to do breast self-examination because I have no symptoms of breast cancer.	16.8%	33.3%	49.9%
I don't have to do breast self-examination because I can never have breast cancer.	5.1%	34.8%	60.1%

**Practice of BSE**

Only 99 (28.2%) of the participants actually practices BSE with 21.4% stating that they had done it in the last 1 week. 22.6% reported doing BSE in the last month and 32.1% mentioned having done it in the past 12 months. 52.3% stated that they do BSE daily while only 17% stated that it is done monthly. Only 44 (42.4%) of the 99 participants who practice BSE actually do it correctly with 3 fingers and palm while 53 (53.5%) said they do it anyhow as shown in figure 2

below. The majority of participant 238 (67.8%) indicated that they do not do BSE because of lack of knowledge on BSE. A significant association was also seen between the level of knowledge and the practice of BSE (P= 0.000) with the participants who had good knowledge showing good levels of practice of BSE as shown in table 5 below.



**Fig 2: Proportion of women doing breast self-examination correctly**

**Table 7: Association of Practice of BSE and other factors**

Factor	Practice of BSE		P Value
	No	Yes	
<b>AGE</b>			0.002
< 30 (27.3%)	125(72.7%)	47	
30-39 (19.1%)		72(80.9%)	17
40-49	22(48.9%)	23 (51.1%)	
50-59 (34.6%)	17(65.4%)	9	
60+ (15.8%)	16(84.2%)	3	
<b>MARITAL STATUS</b>			0.335
Single (28.2%)	107(71.8%)	42	
Married (27.3%)	109(72.7%)	41	
Divorced	13 (86.7%)	2(13.3%)	
Widow (37.8%)	23(62.2%)	14	

<b>HIGHEST LEVEL OF EDUCATION</b>			0.511
None	7 (77.8%)	2 (22.2%)	
Primary (32.1%)	57 (67.9%)	27	
Secondary (24.7%)	125 (75.3%)	41	
Tertiary (31.5%)	63 (68.5%)	29	
<b>OCCUPATION</b>			0.581
Unemployed 56(28.9%)	138(71.1%)		
Employed 17(34%)	33 (64.0%)		
Student	9 (21.4%)	33 (78.6%)	
Business (Self-employed) (73.8%)	17(26.2%)	48	
<b>ATTITUDE</b>			0.000
Positive	163(62.5%)	98(37.5%)	
Negative	89 (98.1%)	1 (1.1%)	
<b>KNOWLEDGEBLE ON BSE</b>			0.000
No (11.8%)		149 (88.2%)	20
Yes 79(43.4%)			103(56.6%)

**Table 8. Bivariate Analysis of factors associated with Practice on Breast self-examination**

Factor	Practice of BSE			95% C.I./ EXP(B)	
	No (Poor)	Yes(Positive)		Lower	Upper
<b>AGE</b>					
< 30	125(72.7%)	47 (27.3%)	30-39	1	1
72(80.9%) 17 (19.1%)				0.127	1.999
40-49	22(48.9%)	23 (51.1%)		0.209	3.758
50-59	17(65.4%)	9 (34.6%)		0.03	0.766
60+	16(84.2%)	3 (15.8%)		0.068	1.810
<b>ATTITUDE</b>				4.91	270.6
Positive	101(38.7%)	160(61.3%)			
Negative	68 (75.6%)	22 (24.4%)		1	1
<b>KNOWLEDGEBLE ON BSE</b>					
No	149 (88.2%)	20 (11.8%)		1	1
Yes	103(56.6%)	79(43.4%)		2.390	8.056

**Discussion**

Breast cancer is among the commonest causes of deaths among women in the world. In Zambia, it has been ranked 2<sup>nd</sup> commonest cancers second to cervical

cancer [1]. In 2003, it was reported that most women seek medical attention when the cancer is in the late stage [3,4].

Mortality due to breast cancer can be prevented if detected early [8]. There are several methods by which

breast cancer can be detected early with mammography being the most sensitive. However, mammography screening is costly and is mostly cost-effective and feasible in countries with good infrastructure that can afford a long term organized population-based screening programs [13]. In resource limited areas like Zambia, breast self-examination can be used. This study done in Luanshya Town in Zambia was to determine the knowledge, attitudes and practice of the resident females towards BSE.

The level of practice of BSE as observed in the study was very low with only 99(28.2%) of the participants actually doing it of which only 42 (42.4%) of the 99 participants do it correctly with three fingers and palm while as 53.5% respondents stated that they do it “anyhow”. Most participants (67.8%) stated that lack of knowledge on BSE was the main reason for not practicing BSE. This is consistent with many studies done an example being the study done in Solwezi and Lusaka [4] in which only 5% of the participants practiced BSE and 65% of participants in the rural area stated that lack of knowledge was the reason for not practicing BSE. Other studies elsewhere also cite lack of knowledge as the main reason for not doing BSE. [9,14].

The significant association found between level of knowledge and practice of BSE which has been observed in a number of similar studies [15, 16] brings to light that awareness and health education programs can improve the negative practice towards BSE. The study also showed that the main source of information on BSE as cited by the participants was television. This has been observed in similar studies conducted elsewhere [17, 18, and 19]. This finding suggests that media, especially TV can be used as a tool to sensitize the public on BSE.

Physicians, nurses and other health practitioners also have a part to play in the public’s awareness of BSE as the study revealed that 22.4% of respondent’s source of information on BSE was from a health facility. Similar findings were observed in studies done in Cameroon and Ghana [15, 18]. This underscores the importance of the health sector and its role in sensitization of the public on BSE and its benefits.

Generally, the attitude toward BSE was good with a larger proportion of the participants having a positive attitude (74.4%). This positive attitude shows that the gap seen between knowledge and practice can easily be closed by sensitization programs with a promise of a good outcome.

The level of Knowledge on BSE observed in the study was at most average with only 12.5% of the participants having good knowledge. These results are in close range with those observed in a study done in Ethiopia [20-21] in which only about 8.7% of participants had good knowledge on BSE. They are also similar to results obtained in a similar study in India [16].

### Conclusion

The study conducted to assess the Knowledge, attitude and practice of BSE among women in Luanshya demonstrated a considerable gap between the Knowledge and practice of BSE. This brings to light the need by ministry of health to formulate programs that will close the existing gap. Use of the media, especially television for intensified sensitization programs can greatly change the women’ knowledge level and hence, improves the practice of BSE for early detection of breast cancer.

### Abbreviations

BSE Breast Self – Examination.

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