AWARENESS OF BREAST SELF EXAMINATION AMONG SECONDARY SCHOOL GIRLS (15-17 YEARS) BETWEEN RURAL AND URBAN AREAS OF EBONYI STATE.

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ABSTRACT

*The aim of this study was to investigate the level of awareness of breast self-examination among secondary school girls (15-17 years old) in Ebonyi State's rural and urban districts. The study was designed as a cross sectional survey of female secondary school students using questionnaire for data collection. The study population was from a secondary school (1000 females), 500 females were from rural areas of Ebonyi State while 500 females were from urban areas of Ebonyi State. Data obtained was analysed using chi square Pearson correlation coefficient (**r**) which is one of the tools in International Business Machine Statistical Package for Social Science (IBMSPSS) version 25. From the results obtained, awareness of breast self-examination for the urban subjects were reported to be 62.3% while for the rural subjects, it was reported to be 37.7%. The major source of awareness of breast self-examination was from health workers for urban dwellers and television for rural dwellers. In conclusion, disparity in the awareness of breast self-examination between urban and rural secondary school girls (age 15-17) in Ebonyi State was found and thus it is important to create awareness of BSE among young girls most especially the rural area dwellers.*

INTRODUCTION

Breast cancer is already a well-known health problem in Nigeria with about 1 death in every 25 reported cases. (1) A major worry about breast cancer in Nigeria is the continuous rise in the number of cases and deaths. (2) The peak age incidence of breast cancer in Nigeria is reported to be between 45 and 50 years, in contrast to Europe and America, where it was reported to be 65-75 years. (3, 4) Some cases have been reported below 30 years in Nigeria. (5)
The primary cause of this rising mortality rate is a lack of early disease detection. (6) This phenomenon is almost certainly a direct result of the widespread lack of breast cancer awareness reported in most poor nations. Adequate breast cancer education can equip women with the ability to notice and detect symptoms before the disease spreads and seek medical attention in a timely manner. (7) Knowledge about breast cancer serve as basis for early detection, prevention and treatment of this condition. (8)

Early detection and diagnosis of breast cancer can enhance the chances of effective treatment, hence raising public knowledge of probable indications of breast cancer is essential. (9) The three screening methods recommended for breast cancer include breast self-examination (BSE), clinical breast examination (CBE) and mammography. BSE is a low-cost approach of early detection of breast cancer, particularly in resource-limited nations. More than 90% of breast cancer cases can be diagnosed by women themselves, highlighting the importance of breast self-examination (BSE) as the primary breast cancer detection strategy. (10) Breast self-examination (BSE) entails visualizing and palpating one's own breast for lumps, shape, texture, size, and contour. The purpose is for a woman to study the morphology of her breasts, understand how her typical breasts feel, and be able to recognize changes in them if they develop in the future. Breast self-examination (BSE) has been shown in studies to aid in the early diagnosis of breast cancer. (11)
According to the American College of Obstetricians and Gynecologists (ACOG) and the American Cancer Society, breast self-examination (BSE) should begin at the age of 20 and clinical breast examination (CBE) should begin at the age of 18 years. (11) Indeed, regular breast self-examination (BSE) has been proposed as part of a broader health promotion strategy. It is important therefore to adequately motivate females to regularly carry out breast self-examination (BSE) so as to curtail the increasing mortality rate from breast cancer. (12)

Several works have been done on the awareness and practice of breast self-examination (BSE) among the women in Ebonyi State, Southeast Nigeria (13), however, it has not been done among secondary school girls. There is need to enlighten secondary school girls on breast cancer as well as breast self-examination because early knowledge will get them informed and prepared to practice BSE when the time comes. Given the importance of breast self-examination (BSE) in the early detection of breast cancer (11) and the fact that it is more cost effective and readily available than any other method of early detection of breast cancer in our environment, the purpose of this study was to assess the level of awareness of BSE among secondary school girls (15-17 years) in Ebonyi State's urban and rural areas.

MATERIALS AND METHODS

The study was designed as a cross sectional survey of female secondary school students in rural and urban areas of Ebonyi State, Nigeria. The study utilized 1000 female students within the age range of 15-17 years, randomly selected using a proportionate stratified random sampling method. 500 female students were from rural areas while 500 female students were from urban areas.

A self-administered questionnaire was employed. The questionnaire was divided into three sections; (A) socio-demographic data on age, ethnicity, and religion of each participant. (B) knowledge of breast cancer. (C) awareness of breast self-examination (BSE) among participants.

Data were analysed using chi square which is one of the tools in International Business Machine Statistical Package for Social Science (IBMSPSS) version 25. Quantitative data generated from the study was presented in form of tables and analysed as descriptive frequencies and percentages. Statistical significance was set at $P < 0.05$.
According to standard ethics of Ebonyi State University Abakaliki, Ethical Committee for human experimentation, informed consent was obtained from every one of them.

RESULTS

The results are presented below;

Table 1: Prevalence of breast cancer through self-reported information about diagnosis of breast cancer in the family of participants

	Have any member of your family been diagnosed of breast cancer?		
	Yes	No	Total
Area	Frequency (%)	Frequency (%)	Frequency (%)
Urban	60 (52.6)	440 (49.7)	500 (50.0)
Rural	54 (47.4)	446 (50.3)	500 (50.0)
Total	114 (100)	886 (100)	1000 (100)

As seen in table 1, 52.6% are in the urban area as against 47.4% that are found in the rural setting. 886 responded no to the question of whether a family member has been diagnosed of breast cancer before out of which 49.7% were urban dweller and 50.3 were rural dwellers.

Table 2: Awareness of breast cancer in urban and rural areas

	Have you heard of breast cancer?			
	Yes	No	Total	χ^2
Area	Frequency (%)	Frequency (%)	Frequency (%)	
Urban	475 (51.4)	25 (32.9)	500 (50.0)	0.002
Rural	449 (48.6)	51 (67.1)	500 (50.0)	
Total	924 (100.0)	76 (100)	1000 (100.0)	

Table 2 revealed that 51.4% and 48.6% have heard about breast cancer in the urban and rural area respectively. From the urban area 32.9% have not heard about breast cancer while 67.1% were from the rural area.

Table 3: Sources of information on awareness of breast cancer

	What were your sources(s) of information?					
Area	Books Frequency (%)	Media Frequency (%)	Hospital Frequency (%)	Lecture Frequency (%)	Others Frequency (%)	Total Frequency (%)
Urban	143 (56.5)	152 (53.7)	48 (64.9)	123 (40.6)	34 (39.1)	500 (50.0)
Rural	110 (43.5)	131 (46.3)	26 (35.1)	180 (59.4)	53 (60.9)	500 (50.0)
Total	253 (100)	283 (100)	74 (100)	303 (100)	87 (100)	1000 (100)

Table 3 shows that, 152 reported media to be their source of information of breast cancer while books, hospital, lectures and others were reported as their source by 143, 48, 123 and 34 subjects respectively. For the rural area, 180 respondents out of 500 reported lectures to be their source. However, books, media, hospital and others were reported as their source of information of breast cancer by 110, 131, 26 and 53 respondents respectively.

Table 4: Awareness of breast self-examination (BSE)

	Have you heard of breast self-examination (BSE)?			
	Yes	No	Total	χ^2
Area	Frequency (%)	Frequency (%)	Frequency (%)	
Urban	319 (62.3)	181 (37.1)	500 (50.0)	0.000
Rural	193 (37.7)	307 (62.9)	500 (50.0)	
Total	512 (100.0)	488 (100)	1000 (100.0)	

Table 4 shows This study indicated that of the 1000 subjects that participated in this study, those in the Urban setting who are aware about BSE were 319 (62.3%) while those in rural were 193 (37.7%). A total of 488 subjects were not aware of BSE out of which 181(37.1%) were found in the urban and 307(62.9%) in the rural. This study further unveiled that there was significant association between the settlement area and level of awareness about BSE.

Table 5: Sources of information on BSE

	What was the source of the information?					
Area	Television Frequency (%)	Radio Frequency (%)	Health worker Frequency (%)	Family member Frequency (%)	Others Frequency (%)	Total Frequency (%)
Urban	131 (59.5)	18 (32.1)	138 (68.1)	93 (70.5)	120 (27.6)	500 (50.0)
Rural	62 (40.5)	38 (67.9)	46 (31.9)	39 (29.5)	315 (72.4)	500 (50.0)
Total	193 (100)	56 (100)	184 (100)	132 (100)	435 (100)	1000 (100)

The subjects in the urban areas reported health care workers to be their source of information of BSE which accounted for 138 out of the 184 subjects who self-reported their source of information to be from health workers, the remaining 46 are subjects from rural area.

A total of 193 subjects indicated that television is the source of their information about BSE. However, 131 of these subjects are urban dwellers, 62 were rural settlers. Of the 56 subjects that radio served as their source of information about BSE, 18 are urban subjects while 38 are rural subjects. Urban subjects self-reported family member as the means of getting information about BSE which accounted for 93 of the totals of 132 subjects while rural subject acknowledged that they also have family member who gives information about BSE which accounted for 39. Concerning other means of information of BSE rural subjects accounted for 315 out of 435 respondents while only 120 are urban subjects.

Table 6: Knowledge of Practice of BSE

	Have you been taught how to do breast self-examination (BSE)?			
Area	Yes Frequency (%)	No Frequency (%)	Total Frequency (%)	χ^2
Urban	204 (75.8)	296 (40.5)	500 (50.0)	0.000
Rural	65 (24.2)	435 (59.5)	500 (50.0)	
Total	269 (100.0)	731 (100.0)	1000 (100.0)	

This study indicated that a total of 269 subjects agree that they have been taught about BSE. Out of this number, 75.8% were urban subjects while 24.2% were rural subjects. It was also observed that 731 subjects revealed that they have not been taught about BSE. While 40.5% of this 731 were urban subjects, 59.5% were rural participants. This study further showed that there was significant association between subject residence and the possibility of been taught of BSE.

Table 7: Sources of knowledge of practice of BSE

if you have heard about BSE who taught you

Area		Parents	Teacher	Doctor	Nurse	Friend	others	Total
Urban	Frequency (%)	97 (82.9)	22 (73.3)	20 (74.1)	36 (81.8)	19 (54.3)	10 (62.5)	204 (78.0)
Rural	Frequency (%)	20 (17.1)	8 (26.7)	7 (25.9)	8 (18.2)	16 (45.7)	6 (37.5)	65 (22.0)
Total	Frequency (%)	117 (100.0)	30 (100.0)	27 (100.0)	44 (100.0)	35 (100.0)	16 (100.0)	269 (100.0)

Of the 269 subjects who self-reported that they were taught BSE, a total of 110, 30, 27 and 44 were taught by parents, teachers, doctors and nurses respectively. Friend and others taught the remaining 32 and 16 accordingly. Of the 117 subjects taught by parents, the urban subjects were 97 and rural participants were 20. This study revealed that 22 urban participants were taught by teachers of the total of 30 while the remaining 8 were rural subjects. Doctors, nurses, friends and others taught 20, 36, 19 and 10 of the urban subjects respectively whereas 7, 8, 16 and 6 of the rural subjects were taught by doctors, nurses, friends and others respectively.

Table 8: Participants' Understanding of BSE

What do you understand by BSE?

Area		Examination of the breast by yourself	Examination of the breast by a health worker	Examination of the breast by a family member or friend	Total
Urban	Frequency (%)	362 (64.2)	66 (24.2)	72 (44.2)	500 (50.0)
Rural	Frequency (%)	202 (35.8)	207 (75.8)	91 (55.8)	500 (50.0)
Total	Frequency (%)	564 (100.0)	273 (100.0)	163 (100.0)	1000 (100.0)

This study showed that out of the 564 participants who said that BSE is the examination of the breast by yourself, 64.2% were urban subjects and 35.2% were rural participants. A total number of 273 participants reported that BSE is examination of the breast by health worker in which 24.2% were urban participants and 75.8% were rural subjects. Of the 163 subjects who responded that BSE is the examination of the breast by a family member or friend 44.2% were urban subjects while 55.8% were rural participants.

Table 9: Knowledge of BSE as a useful tool for early detection of breast cancer

Area		Do you know that BSE is a useful tool for early detection of breast cancer? Yes	No	Total	χ^2
Urban	Frequency (%)	370 (67.3)	130 (28.9)	500 (50.0)	0.000
Rural	Frequency (%)	180 (32.7)	320 (71.1)	500 (50.0)	
Total	Frequency (%)	550 (100.0)	450 (100.0)	1000 (100.0)	

Urban and rural participants accounted for 67.3% and 32.7% respectively of the total number of subjects that agreed that BSE is a useful tool for early detection of breast cancer. However, of the 450 subjects that disagreed with the idea that BSE is a useful tool for early detection of breast cancer, 28.9% were urban participants and 71.1% were rural subjects.

Table 10: Knowledge of the three positions to perform BSE

Area		Do you know the three position to perform BSE		Total	χ^2
		Yes	No		
Urban	Frequency (%)	127 (77.0)	373 (44.7)	500 (50.0)	0.000
Rural	Frequency (%)	38 (23.0)	462 (55.3)	500 (50.0)	
Total	Frequency (%)	165 (100.0)	835 (100.0)	1000 (100.0)	

The respondents in this study who self-reported that they know three positions for BSE were only 165 while those that do not know the three positions were 835. Of the 165 respondents 77.0% of them were urban subjects and 23.0% were rural individuals. A total of 44.7% urban subjects said that they do not know the three positions involved for the carrying BSE while 55.3% are rural individuals. Area of settlement showed significant association with knowing the three positions of the required for BSE.

Table 11: Participants' Opinion on the practice of BSE

Area		Do you think BSE is a good practice?		Total	χ^2
		Yes	No		
Urban	Frequency (%)	481 (57.5)	19 (11.6)	500 (50.0)	0.000
Rural	Frequency (%)	355 (42.5)	145 (88.4)	500 (50.0)	
Total	Frequency (%)	836 (100.0)	164 (100.0)	1000 (100.0)	

This study unveiled urban subjects as the ones who accounted for 57.5% of the 836 subjects who self-reported that BSE is a good practice while 42.5% were rural subjects. However, out of the 164 subjects whose response indicated that BSE is not a good practice, urban and rural subjects accounted for 11.6% and 88.4 respectively. The area of the participants was associated significantly with their opinion about the practice of BSE.

DISCUSSION

Prevalence of breast cancer through self-reported information about diagnosis of breast cancer in the family of participants

The prevalence of breast cancer in Ebonyi State was revealed using the findings in table 1. There is more prevalence of breast cancer in the urban areas than in the rural areas of Ebonyi State with 52.6% and 47.4% respectively. Despite that there is scarcity of literature on prevalence of breast cancer in Ebonyi State, this result can be compared with a related work. According to Adetifa and Ojikutu (14), prevalence of breast cancer in Lagos State increases yearly reporting 48.17%, 49.67% and 70.50% in 2002, 2005 and 2006 respectively. The reduced percentage in Ebonyi State could be as a result of under reported cases about breast cancer.

Awareness of breast cancer in urban and rural area

Findings in table 2 revealed that 51.4% of urban participants said that they have heard about breast cancer while in the rural area, 48.6% of the participants said they have heard about it. This result agrees with the study carried out by Lois *et al*., (15) that women in Ebonyi State had average knowledge of breast cancer. These results disagree with the popular opinion that women in developing countries like Nigeria have poor knowledge of the disease (16), however, this opinion was made over a decade ago and as such could have been changed or improved. Obaji *et al* (17) carried out a study on awareness of breast cancer among market women in Ebonyi State with their result at 77.7% implying that the market women were very much aware of the disease.

In this study a significant association was observed between residential setting of the participants and awareness about breast cancer. This could be because the urban participants had more access to information than the rural participants.

Sources of information on the awareness of breast cancer

Results in table 3 indicated media as the major source of information for urban dwellers with 152 out of 500 respondents while lecture was the major source of information about breast cancer for rural dwellers with 180 out of 500 respondents. This result agreed with the study carried out by Segni *et al*., (18) where almost majority of the respondents have heard about breast cancer. His study also revealed media as the major source of information about breast cancer. A similar finding was reported in Ethiopia and other different studies like in Iraq, Nigeria and Ghana. (19, 20, 21, 22) This indicates that media is playing major role in creating awareness about breast self-examination in most of the world and there is a need of health professionals' involvement in creating awareness through health educations. Nevertheless, Lois *et al*., (15) and Ikechukwu *et al*., (13) revealed that education was a strong determinant of knowledge of breast cancer among the women.
This result could be because urban dwellers are more predisposed to having televisions, radios and other media related devices while rural dwellers could only access information given to them through lectures and as such more lectures or programs concerning breast cancer and health should be organized for rural people.

Awareness of breast self-examination (BSE)

Summary of table 4 showed that 319 out of 500 (62.3%) urban participants were aware of BSE while 193 out of 500 (37.7%) rural participants were aware of BSE. Several studies agreed with this result, for example, Emaediong's study carried out in Uyo, Akwa-ibom State revealed 78.3% of the respondents had heard of BSE. (23) Pınar *et al*., also reported in 2006 that 72.1% of their participants had knowledge of BSE. (24)
In this study, there was significant association between the settlement area and level of awareness about BSE. This could also be because the urban participants had more access to information than the rural participants.

Sources of information on BSE
Findings from table 5 revealed that the major sources of information about awareness of BSE for both urban and rural participants were from health care workers and television respectively. As the source of knowledge is also very important, this study agreed with Suwarna *et al*., (25) which also revealed that majority of women respondents used in their study were educated by health personnel. Hence, health personnel should be both knowledgeable and trained properly regarding signs and symptoms of the disease. (25)
This result could be as a result of strategic campaigns on awareness of BSE as well as educated family members enlightening their younger ones be it siblings, cousins, nieces or children on the importance of BSE.

Knowledge of Practice of BSE
Table 6 showed a poor result on the knowledge of practice of BSE for rural participants. This study revealed that 75.8% of the urban participants had been taught about BSE while 24.2% of the rural participants had been taught about BSE. This is low compared to the 85.6% shown by Rosemary *et al* among female nurses in Lagos University Teaching Hospital (26); although the study populations are health professionals. This should call for urgent attention by the government, public and private health institutions and other non-governmental agencies to join hands in promoting awareness and proper knowledge about the practice of BSE especially in rural areas of the state.
This study further showed that there was significant association between subject residence and the possibility of been taught of BSE.

Sources of information on knowledge of practice of BSE
Summary of table 7 showed that the major source of knowledge of practice for both urban and rural participants were their parents with 97 and 20 subjects respectively out of 117 subjects. The result gave a view that the government as well as other institutions and organizations, public or private especially health institutions and organization should organize programs on BSE practice as it is needful to provide right information to promote health. There are no similar works on sources of knowledge of practice of BSE due to scarcity of literature. However, knowledge of BSE practice is important as well as the source as it will help in promoting BSE practice.

Participants' Understanding of BSE
Findings from table 8 showed that 64.2% of urban subjects understood BSE while 35.2% of rural subjects understood BSE. This result also showed that 75.8% of rural subjects understood BSE as an examination of the breast performed by health worker and this showed that majority of rural participants lack understanding of BSE. A study carried out by Obaji *et al*., (17) revealed that although most participants had heard of BSE, adequate knowledge and understanding were still lacking.
These findings could be because campaigns were mostly done by health care workers and as such the information could be misinterpreted.

Knowledge of BSE as a useful tool for early detection of breast cancer

Results from table 9 revealed that urban and rural participants accounted for 67.3% and 32.7% respectively of the total number of subjects that agreed that BSE is a useful tool for early detection of breast cancer. However, 28.9% of urban subjects and 71.1% of rural subjects disagreed with the idea that BSE is a useful tool for early detection breast cancer. Results from other researchers revealed high level of agreement on the importance of BSE for early detection of breast cancer with 89.2% (27) and 91% (28).

However, this result could be because of lack of proper understanding of BSE thus, there is need for more enlightenment on BSE. A significant association was again observed between location of residence and the role of BSE in early detection of breast cancer.

Knowledge of the three positions to perform BSE

Table 10 of this study reported that 77.0% of urban subjects knew the three positions for BSE while 23.0% of rural subjects knew the three positions. The result for urban subjects were relatively high which could be because of their area of residence compared to the 48.3% reported by Emaediong (23) and it was concluded that poor knowledge about BSE was the main reason for the inconsistent and inefficient practice of BSE which could also be the reason for the result for rural subjects. (22, 29)

Area of settlement showed significant association with knowing the three positions required to perform BSE.

Participants' Opinion on the practice of BSE

Result from table 11 revealed that 57.5% of urban subjects self-reported that BSE is a good practice while 42.5% of rural subjects self-reported that BSE is a good practice. However, 11.6% and 88.4% from urban and rural subjects respectively indicated that BSE is not a good practice. This result could be because of ethnical or religious belief most especially in the rural areas and also because of poor knowledge of BSE. (22, 29) Despite that, other works showed better knowledge of BSE with 93.3% (30) and 98% (28). This result indicates the need for assessing the knowledge of girls in the general public and educate them on need, importance and techniques of performing BSE.

The area of the participants was associated significantly with their opinion about the practice of BSE.

CONCLUSION

Disparity in the awareness of breast self-examination as well as knowledge of practice of breast self-examination between urban and rural areas secondary school girls (age 15-17) in Ebonyi State was found.

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