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# Assessment of Knowledge and Practice of Breast Self-Examination Among Undergraduate Nursing Students in University of Benin, Benin City

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**Abstract**
Breast self-examination (BSE) yields early detection of breast cancer and a better survival rate. This study assessed knowledge and practice of BSE among undergraduate nursing students in University of Benin, Benin city. A descriptive cross-sectional approach was used in eliciting the information from one hundred and eighty seven (187) consenting undergraduate nursing students in University of Benin. The respondents were selected using simple random technique. Data was obtained on Demographic characteristics, knowledge and practice of breast self-examination using a semi-structured self-administered questionnaire. Data were analyzed using percentage and tables. Findings show that the respondents have a considerable knowledge on BSE. Results also show that respondents rarely perform BSE with 24.5% performing BSE once in a week, 20.8% performing BSE once in six months and 54.7% performing BSE yearly. There is need for health education which should emphasize Breast self-examination to enhance early detection of breast cancer.

**Keywords:** *Breast self-examination, undergraduate students, knowledge, University of Benin, Benin City.*
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## Introduction

Breast self-examination (BSE) is a simple, quick, low cost, non-invasive and regular examination or screening method done to detect lumps or other changes in the breast tissue which involves looking at and feeling any change (Oladimeji *et al*.,2015). BSE yields early detection of breast cancer and a better survival rate. BSE was first presented as a tool for early detection of breast cancer in the 1930's. There are several reasons for non-practice of BSE. Oladimeji *et al*., (2015) identified factors such as insufficient time, lack of self confidence in the ability to carry out the, fear of possible discovery of a lump, and embarrassment associated with manipulation of the breast as reasons for not practicing BSE. Breast cancer is a global health issue and a leading cause of death among women internationally. Currently, it is the most leading cause of cancer death with 198,000 deaths per annum which represents 15.4% of all deaths in the developed regions after lung cancer (Balekouzou *et al*., 2016).

In developing countries, it is the first leading cause of death among women with 324,000 deaths which represented 14.3% of all deaths. In Nigeria, studies have shown that breast cancer is diagnosed in advanced stages of the disease when compared with developed nations and thus have a poor outcome and high fatality rate (Oladimeji *et al*., 2015). Fatality of breast cancer has increased as a result of late presentation, limited resources, low awareness of breast cancer and its detection, symptoms, prevention and delayed biomedical care. Different studies have shown that many females do not carry out BSE for different reasons. According to Meron et al.,

(2016) in their studies on practice of BSE, about 26% of the respondents do not practice BSE due to forgetfulness, while 21% do not practice BSE due to stress, while 19% do not practice BSE due to lack of skills in practicing it.

Breast self-examination is a simple examination women can perform on themselves. Women who practice it are more familiar with their breasts potentially making them more aware of breast problem as they will seek medical advice early. Many women miss early detection and treatment opportunities due to lack of information, knowledge and skills in practicing Breast self-examination (Oladimeji *et al*., 2015). Breast cancer organization in 2016, recommended that all women should routinely perform BSE as part of their overall breast cancer screening strategy. Knowledge and the practice of BSE is of paramount importance in early detection of signs of breast abnormality and hence result in early identification of breast cancer. There is a death of literature on knowledge and practice of Breast self-examination among undergraduate nursing students in University of Benin as only limited studies have been conducted on the knowledge and practice of BSE among the students.

A study conducted by Yakout *et al*., (2014) to assess awareness, knowledge and practice of nursing students regarding breast self-examination (BSE) and evaluate the effect of one day workshop on student's performance level in College of nursing (Female section) Riyadh, King Saud University (KSU), Kingdom Saudi Arabia (KSA) findings revealed that, more than half of the total sample of the students had previous knowledge regarding BSE from their college curricula and seventy percent of the total sample did not practice BSE before. In a descriptive cross-sectional study carried out among women in Ala community in Akure North Local Government, Ondo State by Makanjuola *et al*, (2013) results showed that a greater proportion of respondents (60%) had poor knowledge of BSE and nearly all the participants had knowledge of the existence of breast cancer. Findings also showed that the most frequent perceived cause of breast cancer was "hereditary" and 50% of the participants attributed the cause of breast cancer to "witchcraft". The risk factor most frequently indexed by respondents was "Excessive alcohol consumption" (65%) and overall (45%) of participants were partially aware of the causes of breast cancer. Although (60%) of respondents believed that breast cancer could be prevented with a vaccine, only (34%) recognized breast examination as a breast cancer prevention method. The major source of information for breast cancer and BSE among the respondents was the mass media. Similarly, another study done among undergraduate students of Lagos University Teaching Hospital, Nigeria by Bassey (2011) revealed that the information of respondents with respect to breast cancer and breast self-examination was high (97.3%); as 85.6% knew how to perform BSE appropriately and 58.6% got their information from TV/Radio. The respondents knowledge's of breast self-examination was great, 98.5% said breast self-examination was key and fundamental. Also, another description study Umbreen, Jabeen & Riaz, (2017) carried out among post registered (RN) Nursing students of Lahore showed that 100% of the subjects have heard about breast self-examination. 3.8% heard from home, 73.1% heard from the television and radio, and 1.3% heard through newspapers.

According to a study done among female university students in Ajman, United Arab Emirates showed approximately half of the students 46.2% of participants had never heard about BSE. Majority of respondents 86.5%, of participants had low/below average knowledge scores regarding early detection of breast cancer. The vast majority of the participants were not aware of the recommended frequency of BSE (98%) or its timing in relation to their menstrual cycle (94%). Participants were asked how often they practiced BSE. Only 22.7% of the participants admitted to have ever conducted BSE and only 3.3% of the participants

practiced monthly BSEs. The median knowledge scores of participants who conducted BSEs were significantly higher compared with those who did not practice BSE (Meron et al., 2016).

A study also conducted in Malaysia by Parsa, P., Kandiah, M. and Parsa, N. (2014) had shown that knowledge mean score was 60.4% and only 38.4% of participants had good knowledge of BSE. The highest mean score belongs to the knowledge on 'Hands should be raised up alternately above the head when doing the BSE in front of the mirror' has a mean score of 1.60 followed by 'BSE should be done in front of the mirror' with a mean score of 1.53. The knowledge on the 'BSE include 'Undress up to the waist when doing the BSE', 'Need to observe for unusual change in shape and size of breast' and 'Use finger pulps to examine any lump or thickening of the skin' with the mean score more than 1.2. 85.5% of respondents answered correctly about the frequency of breast self-breast examination.

Findings from a descriptive cross-sectional study which was conducted among 603 market women in Ibadan, Nigeria by Oladimeji, *et al*, in 2015, revealed that more than three-quarters of the participants had knowledge of how to perform BSE. Majority of the participants 70.8% reported that they did not know how to perform BSE, while only 29.2% reported that they do. Knowledge about how to perform BSE was slightly higher in participants who came from Oja-oba-market (37.6%) followed by those from Agbeni, Bode and other markets with level of knowledge all above 25% except in participants from Oje market. Very few participants were recruited in the ages below 20, and 50 years or above. According to the study, only 271 participants responded to the question on when is the right time to perform BSE and only 8.1% of these knew correctly that 'mid-cycle' was the right time to perform BSE. There is a dearth of literature on knowledge and practice of Breast self-examination among undergraduate nursing students in University of Benin, Benin City. This study therefore assessed the level of knowledge and practice of Breast self-examination among undergraduate Nursing students in University of Benin.

**Objectives of the study are to:**

Assess the level of knowledge of Breast self-examination among female nursing students in the University of Benin.

Examine the practice of Breast self-examination among respondents

Identify the reasons for not practicing Breast self-examination

**Theoretical framework**

Dorothea Orem self-care theory guided the study. Orem's theory of self-care was developed in 1959 by Dorothea Orem and was first published in 1971. According to Orem, Nursing has its special concern for the individual's need for self-care action and the management and provision of care on a continuous basis in order to sustain life and health, recover from injury or disease, and to cope with their effects.

The theory includes three related concepts: self-care, self-care deficit, and the nursing systems (Orem, 1990)

**Self-care-** Self-care is the practice of activities initiated by individuals and performed on their own behalf in maintaining health, well-being and life. Normally, adults voluntarily care for themselves Children, infants, the aged, the ill, and the disabled often require complete care or assistance with activities of self-care. Self-care is a deliberate action that has sequence and pattern. It is developed in day to day living, and aided by instruction, intellectual curiosity, supervision from others, and by experience in performing self-care measures.

Self-care agency is the individual's ability to perform self-care activities. It consists of two

agents: a self-care agent (an individual who performs self-care independently) and a dependent care agent (a person other than the individual who provides the care). Self-care requisites, also called self-care needs are actions or measures taken to provide self-care. Orem presents three categories of self-care requisites: Universal requisites: are common to all people. They include maintain intake and output of air, water, and food; balancing solitude, rest, and social interaction; preventing hazards to life and well-being; and promoting normal human functioning.

Developmental requisites: are associated with events or conditions, such as adjusting to a change in body image. Health deviation requisites: results from injury, illness or disease or its treatment. They include actions such as carrying out prescribed therapies, seeking health care assistance and learning to live with the effects of illness and treatment.

**Self-care Deficit**

Self-care deficit results when self-care agency is not efficient enough to meet the known self-care demand. This theory explains not only when nursing is needed but also how people can be assisted through the five methods of helping: acting or doing for, guiding, supporting, teaching, and providing an environment that promotes the individual's abilities to meet current and future demands.

**Nursing System**

The nursing system is dependent on the self-care needs and abilities of the patient. The five methods of helping discussed in self-care deficit can be used in each of the three nursing systems;

**Application to the Study**

The importance of breast self-examination cannot be overemphasized as breast self-examination is an asset of learned practices to maintain functioning and bring about a condition of well-being. The breast self-examination constitutes a form of care for the self, and the person's engagement in health actions, since it is carried out by the person herself, for her own benefit, through activities or actions that may satisfy her own necessities, be it physiological, developmental or behavioral. This theory determines that the self-care agent should be able to satisfy its own necessities, identifying limitations, and defining what must or may be done to improve health conditions and meet the self-care requisites.

However, it is the responsibility of the nurse as a dependent care agent who is closest to the client is to teach the undergraduate nursing students to carry out self-care practices such as breast self-examination and the most appropriate time of the month to carry out breast self-examination and how to examine the breast so as to maintain a healthy state.

**Materials and Methods**

The study employed a descriptive cross-sectional design to assess the level of knowledge of Breast self-examination among female under graduate nursing students.

This study was carried out in the Department of nursing science, University of Benin, Benin city. The University of Benin is one of Nigeria's first generation federal universities and is located in Egor Local Government Area of Edo State, Benin City. It was founded in 1970. It started as an institute of Technology and was accorded the status of a full-fledged University by National Universities Commission (NUC) on July 1, 1971. Presently, the total student enrolment stands as over 40,000 and is made up of both part time and full time students shared among various faculties.

The target population consists of 287 undergraduate nursing students of university of Benin from 200 to 500 levels. Seventy one (71) students in 200 level, eighty-nine (89) students in 300 level, seventy-seven(77) students in 400 level and fifty (50) students in 500 level.

Simple random sampling technique was used to select the sample for the study. Each individual was chosen entirely by chance and

each member of the population had an equal chance of being included from each level for the study.

The sample size of this study was determined using Taro Yamane (Yamane, 1973) formula, which is:

n=N/(1+N〖(e)〗^2 )

Where:
n= sample size required/ sample size
N= number of people in the population/ population size
e= sampling error (0.05 acceptable error)
N= 287
n= 287/(1+287〖(0.05)〗^2 )
n= 287/(1+287(0.0025))
n=122

A semi-structured questionnaire was used in collecting the data for the study. The Questionnaire was divided into three sections. Section A consisted of Demographic data of the respondents. Section B Comprised of questions designed to assess the level of knowledge of BSE among respondents using a true and false response. The level of knowledge was categorized into poor, fair and good as a percentage of the number of correct answers given to questions in this section.; 0-49.9% as poor, 50-100 as good. Section C contains questions used to determine level of practice of BSE among participants. Questions comprising of both closed and open–ended question were carefully crafted, sequenced and constructed to obtain in depth information.

To establish validity, and to test for face validity, was done by identifying if the questions relevant to the concept being measured and were found to be valid and adequate to give the relevant information. In order to examine its suitability, it was tested to establish the reliability of the instrument and reliability coefficient and was found to be 0.7 (Cronbach Alph)

Data were analyzed using Statistical Package for the Social Science (SPSS) version 21.0. The Socio-demographic distribution of respondents was done by frequency tables. Findings were also analyzed using graphs and tables to give a much clearer picture of the outcomes and detailed meanings to the findings for easier understanding and interpretation.

**Ethical Clearance**

Approval was sought and given by the University Research and Publications Committee REC. APPROVAL NO CMS/REC/2018/040. The purpose and benefit of the study was explained to the respondents and consent of the respondents were obtained. The respondents were assured of the confidentiality of the information obtained. The rights to participate and to withdraw from the study if they so desired without penalty. Each respondent was given a questionnaire.

**Results**

**Table 1:** *Socio-demographic characteristics of respondents*

| S/N | Variables | | Frequency | Percent (%) | Total |
|---|---|---|---|---|---|
| 1 | Age | 15-19<br>20-24<br>25-29<br>30-34<br>35 and Above | 34<br>70<br>10<br>2<br>2 | 28.8<br>59.3<br>8.5<br>1.7<br>1.7 | 118 |
| 2 | Religion | Christianity<br>Islam<br>Others | 110<br>7<br>1 | 93.2<br>5.9<br>8 | 118 |
| 3 | Level | 200<br>300<br>400 | 56<br>16<br>21 | 47.5<br>13.6<br>17.8 | 118 |

| | | | | | |
|---|---|---|---|---|---|
| | | 500 | 25 | 21.2 | |
| 4 | Marital Status | Single<br>Married | 110<br>8 | 93.2<br>6.8 | 118 |
| 5 | Ethnicity | Yoruba<br>Igbo<br>Hausa<br>Benin<br>Others | 14<br>13<br>1<br>55<br>35 | 11.9<br>11<br>.8<br>46.6<br>29.7 | 118 |

**Source:** *Survey computation, 2018*

The results in table 1 above shows that the age of respondents was reasonably concentrated on young and vibrant respondents, where 28.8% were between the age range of 15-19 years old, 59.3% of the respondents were between the age range of 20-24 years, 8.5% of the respondents were between the age range of 25-29, 1.7% were between the age range of 30-34 years while 1.7% were between the age range of 35 and above. From the survey, 93.2% were to the Christians, 5.9% were Muslim, while 0.8% belongs to other religion. Academic level of the respondents was also captured in the study, ranging from 200 level, 300level, 400level, and 500level which has frequency and percentage as, 47.5%, 13.6%, 17.8%, and 21.2% respectively. The marital statuses of the respondents are as follows 93.2% single, 6.8% were married. The ethnic groups captured in the study were Yoruba, Igbo, Hausa, Benin and others expressly stated, which had frequency and percentage of 11.9%, 11%, 0.8%), 46.6%, and 29.7% respectively.

**Tables 2:** *knowledge of BSE among undergraduate nursing students*

| | **Correct knowledge** | | **Incorrect knowledge** | |
|---|---|---|---|---|
| **Statements/ Questions** | **N** | **%** | **N** | **%** |
| Have you ever heard of Breast Self-Examination? | 167 | 90.3 | 18 | 9.7 |
| If yes, how did you hear about it? | 130 | 70.3 | 55 | 29.7 |
| What do you understand by breast self-examination? | 146 | 78.9 | 39 | 21.1 |
| Breast self-examination is a screening method which can be used to detect the presence of breast cancer early? | 155 | 83.8 | 30 | 16.2 |
| Early detection of breast cancer improves chances of survival? | 81 | 43.8 | 104 | 56.2 |
| Breast cancer is a curable disease if detected at the earlier stage of the disease | 101 | 54.6 | 84 | 45.4 |
| Recommended age to start breast self-examination? | 124 | 67.0 | 61 | 33.0 |
| How often should breast self-examination be performed? | 64 | 34.6 | 121 | 65.4 |
| Time to perform breast self-examination before menses? | | | | |
| How should breast self-examination be performed? | | | | |

**Source:** *Survey computation, 2018*

Table 2 above reveals knowledge of BSE among Undergraduate Nursing students in the University of Benin. As can be seen, majority of the respondents representing 167(90.3%) of the respondents indicated that they have heard of Breast Self-Examination while 18(9.7%) of the respondents claimed otherwise. Response to item 10 showed that only 64 (34.6%) of the respondents know how breast self-examination should be performed while 121(65.4%) do not.

Figure 1 shows the level of knowledge of BSE. This showed that 59(31.9%) had poor level of knowledge, while 126(68.1%) showed good level of knowledge. This indicates that majority of the students had good level of knowledge of BSE

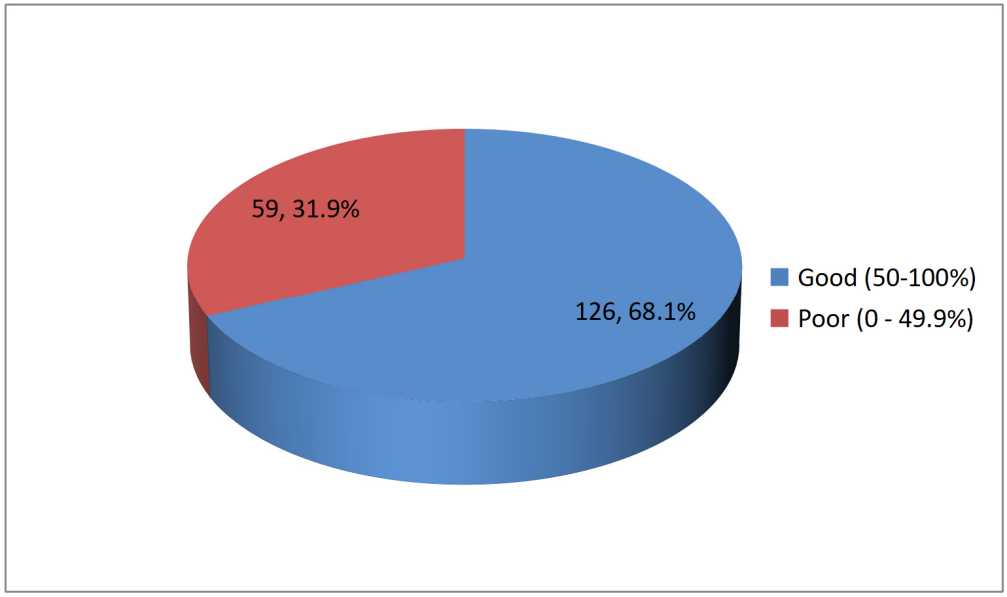


**Figure 1:** *Level of knowledge of BSE*

**Table 3 :** *Showing Practice of BSE by undergraduate nursing students*

| | | Frequency | Percent | Valid Percent |
|---|---|---|---|---|
| Valid | Once a week | 13 | 24.5 | 54.7 |
| | Once in six months | 11 | 20.8 | 20.8 |
| | Once in a year | 29 | 54.7 | 24.5 |
| | Total | 53 | 100.0 | 100.0 |

**Source:** *Survey computation, 2018*

Table 3 above shows how often University of Benin undergraduate nursing students' practice of BSE. As indicated above, most of them perform BSE yearly. 13 respondents represent 24.5% perform BSE once in a week, 11 respondents representing 20.8% perform BSE once in six months. Therefore, in answering the research question we can emphatically say that University of Benin undergraduate nursing student rarely perform BSE.

**Table 3:** *Association between source of information and practice of breast self-examination*

| | **Practice** | | | |
|---|---|---|---|---|
| | **No** | **Yes** | $\chi^2$ | **P** |
| Social media | 26 | 43 | 17.149 | <0.001 |
| Health personnel | 11 | 65 | | |
| Family/Friends | 11 | 9 | | |
| Others | 5 | 15 | | |

The table above shows that there is a significant relationship between sources of information and practice of Breast Self-Examination ($p < 0.05$)

**Table 4:** *Association between level of knowledge and practice of breast self-examination*

| | Practice | | | |
|---|---|---|---|---|
| | **No** | **Yes** | **$\chi^2$** | **p** |
| Good | 37 | 89 | 0.099 | 0.753 |
| Poor | 16 | 43 | | |

Table 4 shows that there is no significant association (p>0.05) between level of knowledge and level of practice of Breast Self-Examination.

**Table 5:** *Distribution of respondents according to reasons for not practicing breast self-examination*

| | | Frequency | Percent | Valid Percent |
|---|---|---|---|---|
| Valid | I don't have breast problem | 5 | 7.7 | 7.7 |
| | I don't feel its necessary | 13 | 20 | 20 |
| | Forgetfulness | 9 | 13.8 | 13.8 |
| | fear of detection of abnormality | 14 | 21.5 | 21.5 |
| | Do not know how to do it | 24 | 36.9 | 36.9 |
| | Total | 65 | 100.0 | 100.0 |

**Source:** *Authors' computation, 2018*

Table above shows reasons given why some undergraduate students of University of Benin do not practice breast self-examination. From the mix of reason suggested by the study, it was seen that most of them do not know how to do the BSE personally. This is a major set-back to fighting cancer, if they don't know how to do it, they can even detect any sign of cancer in their breast. Other students were naïve as per the reason for provided.

**Table 6:** *Association between Educational level and knowledge of BSE.*

| | Practice | | $\chi^2$ | P |
|---|---|---|---|---|
| | **No** | **Yes** | **5.482** | **0.140** |
| 200 | 24 | 32 | | |
| 300 | 4 | 12 | | |
| 400 | 5 | 16 | | |
| 500 | 13 | 12 | | |

**Source:** *Survey computation, 2018*

Table 6 shows that there is no significant association (p>0.05) between education level and level of practice of Breast Self-Examination.

**Discussion**

Breast Self-Examination (BSE) yields early detection of breast cancer and a better survival rate. We therefor assessed the knowledge and practice of Breast Self-Examination among undergraduate nursing students of the University of Benin Nigeria. The age of respondents was reasonably concentrated on young and vibrant respondents, where 34 (28.8%) were between the age range of 15-19 years old, 70 (59.3%) of the respondents were between the age range of 20-24 years, 10 (8.5%) of the respondents were between the age range of 25-29, 2 (1.7%) were between the age range of 30-34 years while 2 (1.7%) were between the age range of 35 and above. These findings reflect the true age range of undergraduate nursing students in Nigeria. The findings provided corroborating evidences supporting Orem's theory of self-care.

Finding revealed that the respondents have considerable knowledge of Breast Self-Examination which is the subject matter, and

this could be attributed to the formal education obtained and the study has shown that there a significant relationship between knowledge and practice of Breast self-examination. Findings are in line with works of Bassey (2011) and Yakout, et al (2014) that the more the knowledge on BSE the better chances of detecting breast cancer. However, findings show that the undergraduate Nursing students rarely perform BSE. This could be attributable to not having time for such practices, especially where they did not have much knowledge about BSE. This agrees with previous findings of Meron et al., (2016) that female students who performs regular BSE may be more motivated to seek medical attention, including clinical breast examination and mammography.

The findings revealed that there is a significant relationship between sources of information and practice of Breast Self-Examination. This submission is in tandem with the work of Bassey (2011), bearing in mind that our respondents rarely performs BSE, it is imperative for health personnel need to put effort in sensitizing our respondents on BSE.

In trying to understand why some of the respondents do not perform BSE, it was obvious that they don't know how to do it. This is a major set-back to fighting cancer, if they don't know how to perform BSE they cannot even detect any sign of cancer in their breast. Also, we discovered that that there is a significant relationship between educational level and knowledge of Breast Self-Examination.

This study has shown that the practice rate of BSE among the undergraduate nursing students is low. Nurses have been identified as a key source of information of breast cancer and its early detection methods. The nurse therefore should provide effective health education of BSE. The study also highlights certain reasons why BSE is not performed; among the reasons includes forgetfulness and fear of detecting a lump in the breast. Nurses should provide a thorough health education on how to perform BSE with emphasis that BSE should be done for all women of reproductive age to detect any breast abnormalities, to clear myths regarding BSE and also enlighten the general population on the importance and purpose of BSE.

Analysis so far revealed- that there a significant relationship between knowledge and practice of Breast self-examination; there is a significant relationship between sources of information and practice of Breast Self-examination and finally and that there is a significant relationship between educational level and knowledge of Breast Self-examination.

**Conclusion**

Looking critically through the findings of this study, we can conclude that the respondents had considerable insight and knowledge on the practice of BSE. The study will be a guide for the nursing profession to rise up to the challenge and in addressing these challenges identified in the study, for example increasing the awareness level for not only the respondents but to other citizens of our great country Nigeria. As indicated above, only a few of the students perform BSE yearly which is associated with the source of information. From the findings, we can emphatically say that University of Benin undergraduate nursing students rarely perform BSE.

The current study, therefore recommended that further studies should increase the sample size and explore other statistical techniques with adequate justifications.

**Recommendation**

The following recommendations are suggested based on the findings from the study

- ✧ Effective health education campaigns should be prepared to elucidate correct knowledge and practice of BSE to students.
- ✧ University management should establish a club to create awareness and improve practice of BSE among peer at the campus

- ✧ Nursing students who are aware of the importance of BSE should pass on the information to their fellow students.

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