Knowledge, attitude and practice of breast self-examination among female medical students of the University of Ibadan, Oyo State, Nigeria.

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Abstract

Introduction: Breast cancer is one of the leading causes of cancer deaths among women. Early detection using clinical breast examination (CBE), mammography, and breast self-examination (BSE) is important in improving treatment outcome and prognosis of persons with breast cancer.

Objectives: This study investigates the knowledge, attitude and practice of BSE among female medical students at University of Ibadan, Oyo state, Nigeria.

Materials and methods: A hundred and twenty (120) medical students were selected by stratified random sampling methods and their knowledge, attitude and practice of BSE were assessed by self-administered questionnaires.

Results: The mean age of the participants was 20.53 ± 2.18 years. Few students (5.8%) reported a positive family history of Breast cancer. About two thirds, (69.2%) of students had good knowledge of BSE and this was higher among clinical students (p>.005). Almost three quarters, (74.2%) of students practice BSE and good practice was highest in the 300 level class (95%). There were significant associations between age, academic level and knowledge of BSE with the practice of breast self-examination.

Conclusion: The study showed that good knowledge and attitude towards BSE corresponded with a good practice of BSE. This might be explained by the health care information they have received in the course of their studies. One can therefore safely propose that giving relevant health care information to other students may improve the practice of BSE and help increase early detection of breast cancer.

Keywords: *Breast cancer, mammography, stratified random; CBE, BSE*

Résumé

Introduction : Le cancer du sein est l'une des principales causes de décès par cancer chez les femmes. La détection précoce au moyen de l'examen clinique du sein (CBE), de la mammographie et de l'autoexamen du sein (BSE) est importante pour améliorer les résultats du traitement et le pronostic des personnes atteintes du cancer du sein.

Objectifs : Cette étude examine les connaissances, l'attitude et la pratique de BSE chez les étudiantes en médecine de l'Université d'Ibadan, État d'Oyo, Nigéria.

Matériels et méthodes : Cent vingt (120) étudiantes en médecine ont été sélectionnées selon des méthodes d'échantillonnage stratifié aléatoirement et leurs connaissances, leur attitude et la pratique de BSE ont été évaluées à l'aide de questionnaires autoadministrés.

Résultats : L'âge moyen des participantes était de 20,53 ± 2,18 ans. Peu d'étudiantes (5,8%) ont signalé des antécédents familiaux de cancer du sein. Environ deux tiers (69,2%) des étudiants avaient une bonne connaissance de BSE, ce qui était plus élevé chez les étudiantes en clinique (p> 0,005). Près de trois quarts (74,2%) des étudiantes pratiquent BSE et les bonnes pratiques étaient plus élevées dans la classe de 3ème année (95%). Il existait des associations significatives entre l'âge, le niveau universitaire et la connaissance de BSE avec la pratique de l'autoexamen des seins.

Conclusion : L'étude a montré qu'une bonne connaissance et une bonne attitude à l'égard de BSE correspondaient à une bonne pratique de BSE. Cela pourrait s'expliquer par les informations sur les soins de santé qu'ils auraient pu recevoir au cours de leurs études. On peut donc suggérer en toute sécurité que le fait de donner des informations pertinentes sur les soins de santé à d'autres étudiantes pourrait améliorer la pratique de l'BSE et contribuer à accroître la détection précoce du cancer du sein.

Mots-clés : *cancer du sein, mammographie, stratifiée aléatoire, CBE, BSE*

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Introduction

Breast cancer is the most frequently diagnosed malignancy in women both in the developed and less developed world [1]. It is the leading cause of cancer related death in women with a global estimation of

over 508,000 women death in 2011 resulting from breast cancer (Global Health Estimates, WHO 2013) [1]. In Nigeria, the burden of breast cancer is enormous with more than two third of cancer patients presenting with stage 3 or 4 diseases as at the time of first visit to the hospital [2]. This is further worsened by limited resources in terms of skilled personnel and available equipment for diagnosis and treatment of cancer patients as well as poverty, as most cancer patients in Nigeria pay from their pocket to access these facilities.

Favourable survival outcome is associated with increased cancer awareness, early detection and improvement in therapy [3]. Breast self-examination (BSE) is one of the screening methods currently recommended by the American cancer society for the early detection of breast cancer [4]. Segni *et al* found that over 90% of cases of breast cancer can be detected by women themselves, stressing the importance of Breast self-examination [5]. BSE is a simple, quick and cost-free method of screening for breast cancer. In view of this, BSE will likely be the most feasible approach to wide population coverage in many developing countries like Nigeria [6].

Previous study done among undergraduate had shown low level of knowledge and attitude towards the practice of BSE among undergraduate in Nigeria [7]. However, Adeyemo *et al* demonstrated that majority of nursing students at a tertiary institution in Ogbomoso, Oyo State were knowledgeable about BSE and most of them practiced BSE [8]. To the best of our knowledge, no similar study was carried out among female medical students. Therefore, there is need to evaluate knowledge, attitude and practice of BSE among female medical students who are going to be our future health personnel. The aim of this study is to assess knowledge, attitude and practice of BSE among female medical students at University of Ibadan, Oyo State, Nigeria.

Methods

A descriptive cross-sectional study was carried out between January and February, 2017 on female undergraduate medical students of University of Ibadan. A total number of 120 students were recruited for the study. Participants were selected using a stratified random sampling which ensured that each stratum (class level) was represented in the study. A structured and validated questionnaire consisting of mainly closed ended questions about socio-demographic characteristics, knowledge, attitude and practice of BSE was used to collect data. The data was analysed using frequencies, percentages, tables,

bar and pie charts and hypotheses were tested using chi square with the statistical package for social sciences (SPSS) version 21.

Results

Socio-demographics characteristics
The mean age of the respondents was 20.53 ± 2.185 years, with age range of 16 to 26 years (figure 1). Majority, (66.7%) of the students were in the clinical blass (300-600 levels) 75 out of 120 (62.5%) were receiving below N20, 000 monthly and 5.8% of students reported a positive family history of Breast cancer (Fig. 2)
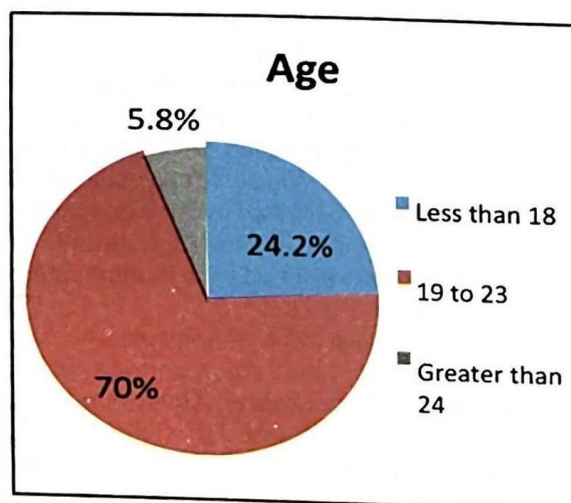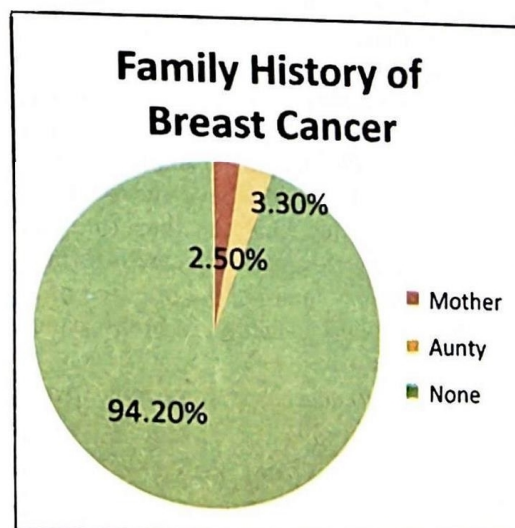

Fig. 1: Age distribution of students

Fig. 2: Students with family history of breast cancer

Knowledge of breast self - examination
Most respondents, 83 (69.2%) learnt about BSE first from health professionals after crossing to the clinical year, 30 (25%) from the internet, 26 (21.7%) learnt from television, 14(11.7%) from friends, 12

(10%) from radio and 5 (4.2%) learnt about BSE only from this study (figure 3).This means that many students learnt about BSE from health professional in their clinical year as compared to their pre-clinical year. As regards knowledge of how BSE is done, 78 (65%) students knew BSE should be done monthly, 103 (85.8%) students knew BSE is done by palpating with the palm and 3 fingers and 50 (41.7%) knew BSE should be performed in 2 positions: when lying down and standing in front of a mirror. More than half of the students (61.6%) did not know the correct

good knowledge of how to properly perform BSE. This showed that good knowledge of BSE was higher among clinical students while poor knowledge of BSE was higher among the preclinical students (figure 4).

Attitude towards breast self - examination
Majority, 119 (99.2%) students think BSE is necessary (Figure 5) though 14 (11.7%) students think it is necessary only when one has a family history of breast cancer and 2 (1.7%) students think it is necessary simply because other people perform it.
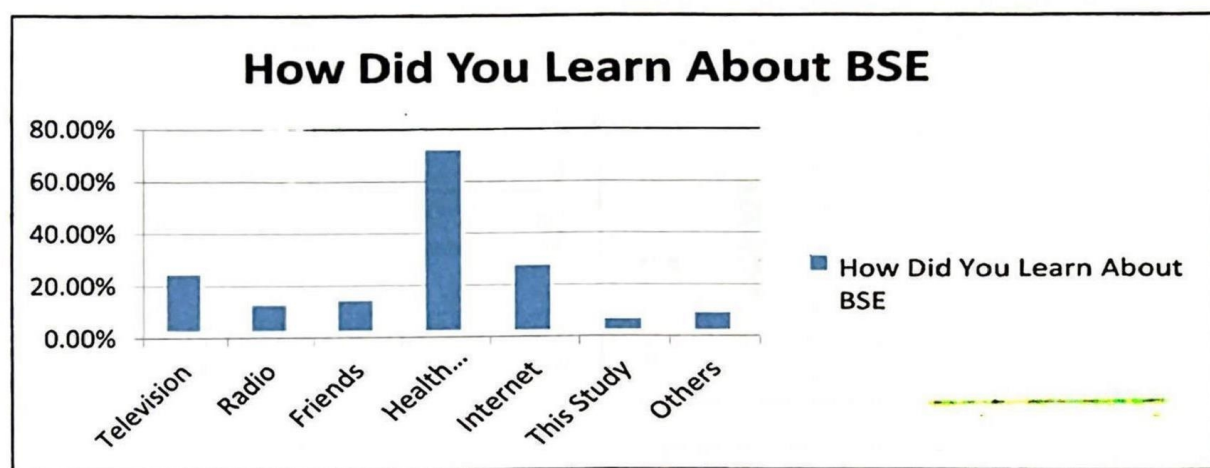

Fig. 3: How students learnt about BSE

age to begin BSE and 68.3% knew that both male and female are required to perform breast self-examination.

Most of the participants (94.2%) in this study indicated that they would like to learn more about BSE (Fig. 6)
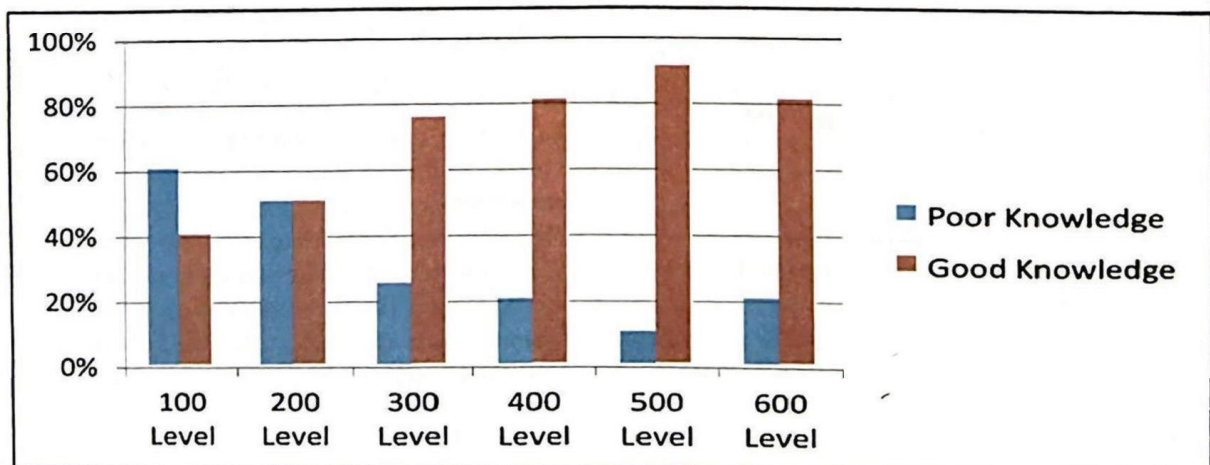

Fig. 4: Knowledge of BSE across the different academic levels.

Knowledge of how to properly perform BSE was further categorized into good and poor knowledge. Those who correctly answered 3 or more questions in this section, were said to have good knowledge, while those who answered 2 or less questions correctly were said to have poor knowledge of BSE. In all, 69.2% of students had

Practice of breast self-examination
The study revealed that 89 (74.2%) students practiced BSE. Among those who practiced BSE, about half, 46 (52.3%) performed it monthly, 46 (51.2%) started practicing BSE after 19 years of age, 70 (78.7%) felt their armpit when performing BSE, 78(87.6%) raised one hand above their head when performing

BSE, 64 (71.9%) performed BSE in the morning and less than half, 37 (41.6%) performed BSE in 2 positions; while standing in front of a mirror and lying down. The percentage of students who practiced BSE was higher among clinical than pre-clinical students (figure 7). The level of good practice of BSE was highest in the 300 level students while poor practice was highest in the 200 level pre-clinical students (figure 8). The study found a statistically significant association between academic levels and practice of BSE (p = 0.004).
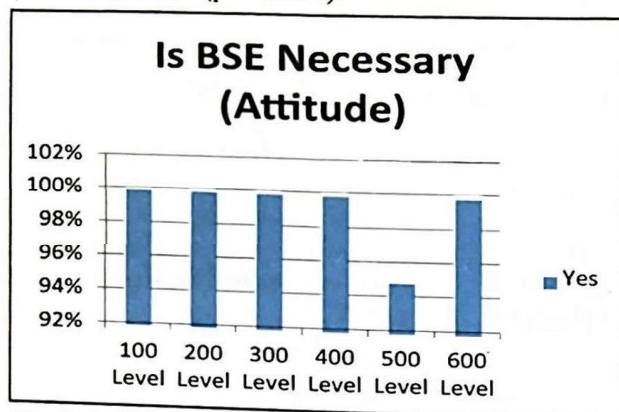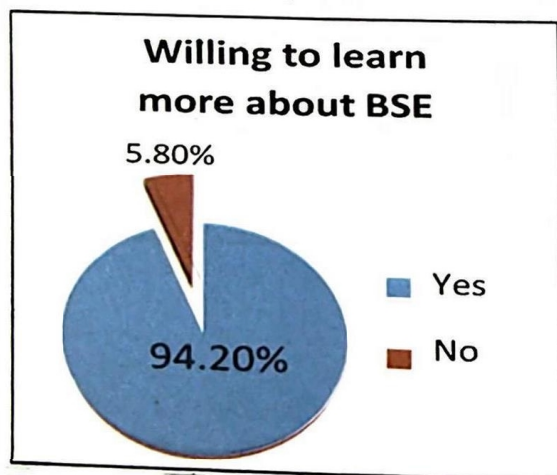

Fig. 5: Attitude towards BSE

Fig. 6: Students willing to know more about BSE

Almost three-quarters 74.2% of students who practiced BSE also discussed BSE with someone. Among these, 43.2% discuss with colleagues, 45.9% discuss with non-medical friends 29.7% with mother, 25.7% with sisters, 23% with female relatives 14.2% and others 8.1%. 14 out of 89 (15.7%) students who practiced BSE have found something unusual in the course of BSE. Ten (11.2%) students found a breast lump, a student (1.2%) found milky nipple discharge and three students (3.4%) found armpit lump/lymph node. Among 14 students, who found something unusual, 10 consulted a doctor, out of which 2 students had a lumpectomy and 4 did

nothing about it. The factors that affects the practice of BSE is shown in (figure 9) below.

Students who received more income were observed to practice BSE more than those who received less income, this finding was not statistically significant (p-value 0.834).
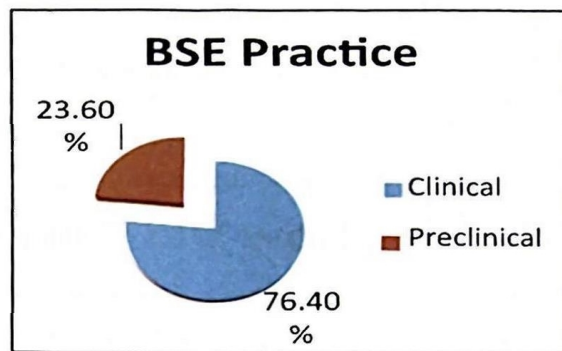

Fig. 7: comparing BSE practice between clinical and preclinical students

There was a statistically significant association between age and practice of BSE (p=0.000002). This could however be due to the fact that those in clinical class were older, had more knowledge of and practiced BSE more than those in the preclinical class.

This study found a statistically association between knowledge and practice of BSE (p =0.014). Although the practice of BSE was higher among those family history of breast cancer, there was however, no statistically significant association between family history of breast cancer and practice of BSE (p =0.584).

Discussion
Knowledge about Breast self - examination
The age of the students ranged from 16 years to 26 years with the mean age group as 20.53 ± 2.185 years. The study was appropriate in this age group as most of them were young adults in the medical field and should have in-depth information about breast self-examination to enable them educate and advice their patients effectively. Similar age group of 15 to 26 years was used in a study carried out at the University of Lagos by Bassey *et al* [9]. This is the usual age range for medical students who spend minimum of six years in the university.

The study revealed that medical students at the University of Ibadan, Nigeria, were well informed about BSE as 83 (69.2%) of the 120 respondents had good knowledge. This contrasts the results found in similar studies among medical students by Ayed A *et al* [4] in Jenin, Palestine and Nemenqani *et al*.[12] in Taif, Saudi Arabia that found only 15.5% and
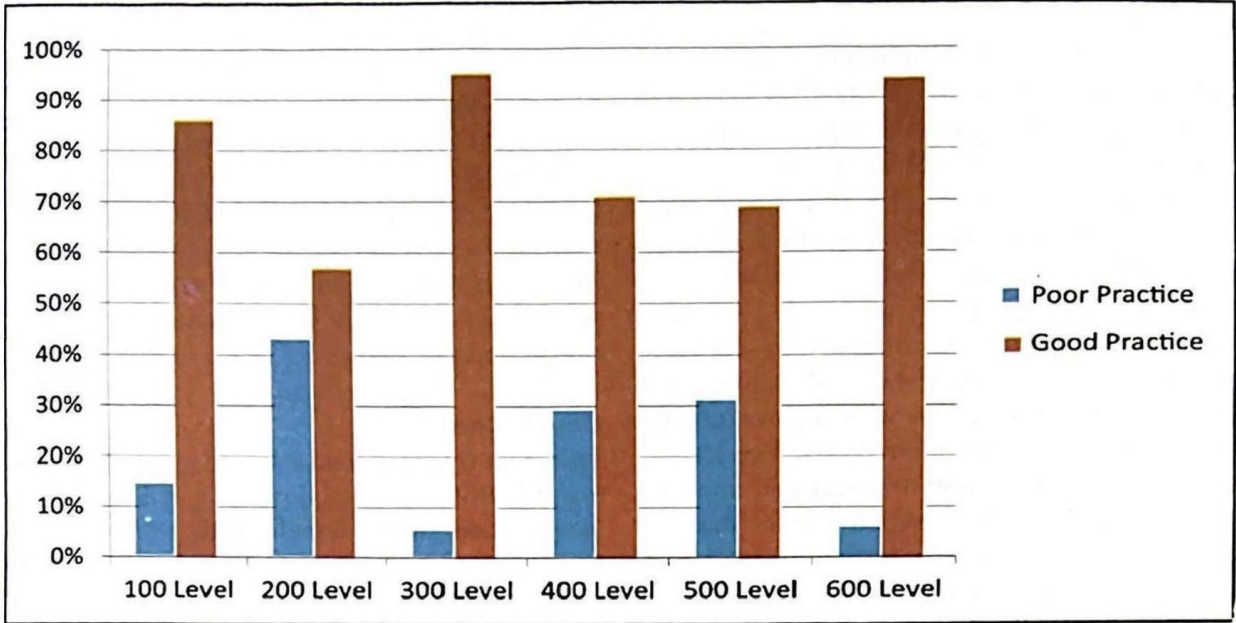
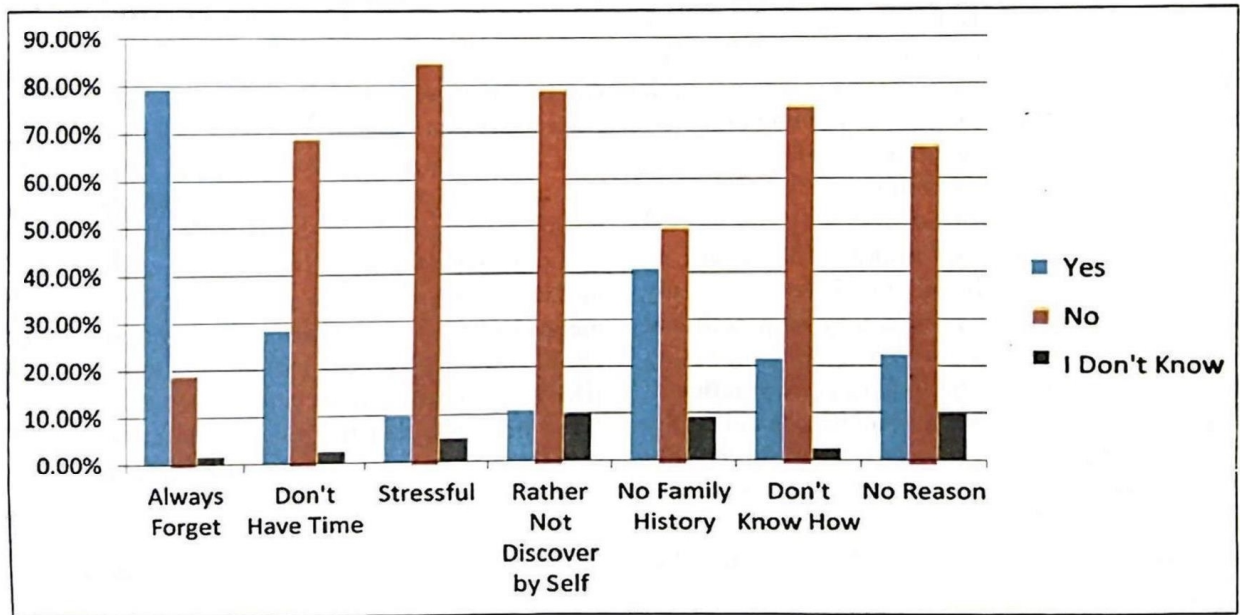**Fig. 8**: Practice of BSE across academic levels

Fig. 9: Factors affecting BSE practice

28.1% with good knowledge of BSE . The reasons for this high disparity cannot be immediately identified.

The commonest source of information about BSE in this study was health professionals (i.e. Medical Teachers). This is in contrast to findings by Gwarzo *et al* [14] and Nemenqani *et al* [12], whose respondents learnt mainly from television and radio. Another similar study done among secondary school teachers in Oyo state, Nigeria by Faronbi and Abolade [11] found majority, 55% of respondents learnt about BSE from television and radio. This result found in

this study is not surprising considering that this cohort are medical students, with frequent contacts with health professionals who are involved in their training.

In this study, good knowledge of BSE was higher among clinical students compared to the pre-clinical students. This was expected because medical students at the University of Ibadan are taught breast examination as part of their curriculum and are exposed to the management of breast cancer patients during their clinical clerkship years in Department of Surgery, the posting which starts only in the third year in medical school.

Attitude to breast self - examination

Almost all, 119 out of 120 (99.2%) students had good attitude towards BSE. One student however thought it wasn't necessary because BSE didn't detect breast cancer early enough. Ayed A et al [4], Rosemary et al. [9] Nemenqani et al. [12] and Yakubu et al [13] all found good attitude towards BSE among their respondents with no negative attitude. This is explained by the category of respondents being medical students. Faronbi et al [11] found a contrasting result in a similar study among secondary school teachers in Oyo state where 48% had negative attitude compared with 24% with positive attitude towards BSE. It can be inferred that prior lecture and discussion about breast cancer can improve attitude of people to BSE. Majority of the students (94.2%) were willing to get more information about BSE. This was similar to 93.2% found in Lagos Nigeria [9].

Practice of breast self - examination

The study revealed that 89 out of 120 (74.2%) students practiced BSE. In a similar study among nursing students it was also found that 87.5% of the respondents performed breast self-examination regularly [9]. On the contrary, Nemenqani et al. [12] studied BSE among medical students in Saudi Arabia and revealed that only 17% of female medical students reported that they performed BSE regularly, once per month. This could be explained by the fact that about 75% of their study population was in the preparatory or preclinical class in contrast to our study. Another contrasting result was found in Zaria, where poor practice of BSE 32.1% was observed among female university students [14].They however found that respondents in the health related disciplines were two times more likely to know and three times more likely to practice BSE than respondents in other disciplines.

Majority, 79.2% of students attributed forgetfulness as the major factor affecting practice of BSE. Among other reasons given were absence of family history of breast cancer 40.8%, busy schedules 28.3%, no reason 22.5%, lack of knowledge on how to perform BSE 21.7%, undisclosed reasons 10.8% and too stressful 10%. A similar study in Borno state, Nigeria revealed that the highest proportion, 36.7% of their respondents said the reasons for not practicing breast self-examination was forgetfulness, 22% showed time constraint as their reason, 16.3% stated lack of skills in performing breast self-examination, 11.0% fear of unknown, 11% stress

and 2.8% show other reasons for not performing breast self-examination[15].

Though, in this study, the practice of BSE was higher among those who had family history of breast cancer, there was however, no statistically significant association between family history of breast cancer and practice of BSE. This was similar to results obtained by Adeyemo et al. [8] in Edo state, Nigeria, which also revealed no relationship between family history of breast cancer and practice of BSE.

Conclusion

This study revealed good knowledge, good attitude towards BSE and a good practice of Breast self-examination among female medical students at University of Ibadan, Nigeria. This was attributed to their exposure to training on breast cancer in the course of study. Therefore, adequate and regular lectures and training on prevention of breast cancer will improve the practice of BSE among general female population irrespective of their profession.

Recommendations

Breast self-examination is a simple and inexpensive tool for early detection of breast cancer. We recommend that efforts should be intensified by health professionals and the government to provide relevant breast cancer information through the media; television/ radio as these were common means by which respondents got their information about BSE. The proper method and frequency of BSE should however be emphasized to eliminate poor practice and the overall practice would translate to a good practice of BSE. Students should be advised to seek medical care for any unusual finding in their breast and be encouraged to set a monthly reminder to practice BSE as this will help eliminate forgetfulness which is a major factor affecting the practice of BSE. Since most students have smartphones, the reminder could be set on their phones. On the other hand mobile apps could be created to remind people of BSE, teach how to perform it and provide facility to record and recall results and findings.

The respondents generally discussed BSE more with their peers, thus medical students should therefore create awareness in the university campus on BSE and should be encouraged to also discuss BSE with their siblings and parents irrespective of the presence of a family history of breast cancer.

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