



AWARENESS, ANALYSIS AND COMPARISON OF KNOWLEDGE OF BREAST SELF-EXAMINATION IN YOUNG GIRLS FOR EARLY DIAGNOSIS.

Anatomy

Ms. Shetty Shravya S

3rd Year MBBS, D.Y Patil Medical College, Kolhapur.

Dr. Gune Anita R*

M.S Anatomy, Associate Professor, Anatomy, D.Y. Patil Medical College, Kolhapur.
*Corresponding Author

ABSTRACT

Breast self-examination is a non-invasive monthly practise in which a person evaluates a normal breast and identifies any changes on the breast in order to seek early medical attention. The study's objectives were to analyse awareness of self-examination of breast, examine the difference in knowledge about self-examination of breast in medical student's vs non-medical students, and ultimately to promote awareness of correct self-breast examination method. A prospective questionnaire-based study was conducted on 300 female students from medical college and engineering college. After pre-event questionnaire the awareness session on Breast Self-Examination, was held with the assistance of a Power-Point Presentation was conducted. After the session, post-session questionnaire was collected. The questionnaire was used to assess post-event knowledge and attitudes about breast self-examination. Comparison of data collected from questionnaire Pre-Session and Post-Session was done, by comparing between Medical and Engineering students. For comparing the effectiveness in knowledge between the Medical and Engineering students unpaired t test was applied with the confidential level of 95%, P value less than 0.045 was significant. We observed that engineering students gained greater knowledge than medical students. To conclude awareness created among young professional students, which in turn will educate and spread knowledge to a large number of individuals in society. The purpose of this study was to dispel misconceptions and encourage proper self-breast evaluation methods.

KEYWORDS

Breast self-examination, Breast Cancer, Early Detection, women.

INTRODUCTION

Breast cancer is the most common cancer occurring amongst women worldwide.^{1,2} Risk factors include being over 35 years old, having a family history of breast cancer and having a personal history.^{3,4} Early diagnosis of Breast Cancer aids in quick access to care and decreased morbidity with the disease.^{5,6} Breast self-examination (BSE) is important in early detection of breast cancer.⁶ Mammography may not be available in majority of health institutions in most nations due to financial constraints.^{7,8,9} Women should be encouraged to seek medical advice if they detect any change in their breasts.^{10,11,12}

SUBJECTS AND METHODS

Design- Prospective, questionnaire-based study.

Sample size -

There were total 300 female students. 150 students from medical college and 150 from engineering college

Inclusion criteria-

Willing current Female Students of age between 18-25 years of medical College and engineering college were included.

Exclusion criteria-

Any students not willing or had any history of operation of mammary gland were excluded.

Data Collection:

A Prospective Questionnaire based study was done on female students from April 2021 to June 2021 after taking the consent to analyse their knowledge, behaviour, and attitudes regarding BSE.

For this study, a questionnaire was created using Google Forms internet survey based on questionnaires used in prior studies in Egypt (Boulos and Ghali, 2014)¹³ and Iran (Reisi M, 2014)¹⁴ University of Beau (Nde FP, Assob JC., 2015)¹⁵ North-East London (Forbes et al., 2010)¹⁶ and Turkey (Karayurt et al., 2008)¹⁷.

Data was gathered from professional colleges, medical students as well as engineering students. This assured that student from a wide range of professions came to participate in our research, eliminating the possibility of selection bias.

All female participants who volunteered and gave consent to take part in the study were included in the target population. Participation in the study was entirely voluntary. The study's purpose was communicated to each participant, and informed Consent was obtained.

Confidentiality was ensured to the respondents. The Questionnaire had 27 questions categorized in 5 sections. (Questionnaire attached) After consenting the form they were asked to fill the 5 questions which contained participants' basic information, such as their name, age, field of study, year of study, and college name, as well as their informed consent. The second and third sections each had 4-5 questions about sociodemographic characteristics and knowledge, with one extra question to assess the students' source of awareness, while the fourth section had 12 questions about breast self-examination practice and 6 questions about attitudes toward breast self-examination. The survey measured participants' understanding (for example, "BSE is used to detect lumps in the breast"), how often BSE should be conducted, and when BSE should be performed. Furthermore, this section looked at whether participants did BSE, why they didn't do BSE, how often they did BSE, and if they were comfortable in identifying changes in their breasts.

The questionnaire was validated by an associate professor of community medicine after which required changes were made to the questionnaire. Reliability of the questionnaire was tested by conducting a study on 20 Female Students from other professional colleges. (Dental and law students)

Participation in this study was completely voluntary, and all students who decided to participate granted their consent using an online survey platform-Google-Form. Participants were given detailed description of the study's aim. They were assured that their participation would be completely anonymous and that no personally identifiable information would be gathered.

The study was conducted after obtaining the ethical clearance from the institute. (Ethical clearance attached). Permission to conduct the study was granted from the Dean of Medical college and Principal of Engineering college. (Due to the present Covid-Pandemic, the study was done online. The link to join the group was provided to the participants using an internet platform called WhatsApp. Medical and engineering students were split into separate groups. A pre-event questionnaire in Google form version was circulated before the awareness session, and we asked all willing participants to complete the forms. Following the collection of 150 answers, an awareness session, as well as a demonstration session on Breast Self-Examination, was held on an online platform-Zoom with the assistance of a Power-Point Presentation and the supervision of a gynaecologist. (Guide). Because the event was held online due to covid, a video demonstrating the proper method for breast self-examination was shown, which helped the participants comprehend

and learn better. After the post awareness session on Breast Self-Examination, many participants put forth their queries which were attended and discussed in the end. Few of the participants gave positive verbal feedback about presentation, video and interactive session. After the session, we circulated a post-session questionnaire in the form of a Google form and recorded the replies of the participants. The same questionnaire was used to assess post-event knowledge and attitudes about breast self-examination. The session was beneficial for raising awareness about breast self-examination as a useful tool for early breast cancer detection.

Data Analysis:

The Statistical analysis from the data collected from questionnaire was done by software SPSS-23.0 version for comparing between Pre-Session and Post-Session in Medical and Engineering students. Few questions from the questionnaire having yes or no were coded as 0,1. These questions were in Section A Question No 1, Section B Question No 5,6,9, Section C, Question No 12,13,14,16,21,22,23,24, Section D, Question No 25,26,27,28. Paired t test was applied with the confidential level of 95%, P value less than 0.05 significant. For comparing the gain in knowledge between the Medical and Engineering students unpaired t test was applied with the confidential level of 95%, P value less than 0.045 was significant. Remaining questions with multiple options percentages were calculated as shown in graphs.

RESULTS

From the total 300 calculated sample size, all participated taking attendance rate to 100%. Table 1 depicts response from medical students. On Analysis of Section A which consists questions on Sociodemographic Characteristics (family history of breast cancer) the data showed significant P value of 0.045 as shown in table 1. In this study majority of participants from medical college had no family history of breast cancer 95.7%.

Table 1

Medical students	Pre session Mean± SD	Post session Mean± SD	PVALUE
Section A: sociodemographic characteristics	0.97±0.16	1 ± 0	0.045*
Section B: knowledge of breast cancer and breast cancer prevention	2.31 ± 0.78	2.91 ± 0.28	P<0.0001**
Section C: knowledge and practice of self-breast examination	5.99 ± 1.48	7.48 ± 0.80	P<0.0001**
Section D: attitude based	4.66 ± 0.64	5.92 ± 0.26	P<0.0001**

Among the responses received, almost half of the respondents were sensitized about breast Self-Examination 79.3% amongst which mass media 46.7% contributed a major portion followed by books for medical students. (Figure 1) On Analysis of Section B which consists questions on knowledge of breast cancer and breast cancer prevention including Question No 5, 6, 9 in Medical Students, the session was significantly useful with P value less than 0.0001 as shown in Table 1. Moreover, most of respondents 89.1% students knew that BSE is a useful tool for early detection of breast cancer. Amongst the total responses, less than half of the participants from medical college 35.9% have been taught the appropriate method of BSE. On Analysing, Section C which consists questions on knowledge and practice of self-breast examination including Question No. 12,13,14,16,21,22,23,24 in Medical Students, 42.4% practice BSE. 52.2% state that BSE should be done monthly while 10.9% respondents stated that it should be done weekly, according to the medical students 81.5% say that BSE should be done by the individual and 14.1% should be done by a doctor. 73.9% of students have heard about mammography and 69.9% students responded that it is a useful tool for early detection of Breast cancer. The session was significantly useful with P value less than 0.0001 as shown in Table 1. Moreover, 57.6% practice BSE out of which 37% respondents practice rarely and 51.8% monthly. 51.1% stated that BSE helps in clinical detection of abnormality in breast. Pre-session responses from students suggested that 57.7% lump may be an early sign for cancer.

In this study, On Analysis of Section D which consists questions on Attitude and behaviour on Breast Self-examination including Question No 25,26,27,28 in Medical Students, out of 150 responses,

5.4% respondents were not confident while performing BSE as recorded in pre-session event while in the post session response there is a slight improvement in responses. 95.7% students in the pre session stated that they feel uncomfortable while performing BSE while in the post session the outcome was positive. There was a significant gain in knowledge and change in attitude towards it after the session as analysed by Post session questionnaire.

Table 2

Engineering students	Pre session Mean± SD	Post session Mean± SD	P VALUE
Section A: sociodemographic characteristics	0.90±0.30	1 ± 0.00	P<0.0001**
Section B: knowledge of breast cancer and breast cancer prevention	1.32 ± 1.12	2.46 ± 0.7	P<0.0001**
Section C: knowledge and practice of self-breast examination	3.62 ± 1.6	5.87 ± 1.75	P<0.0001**
Section D: attitude based	4.97± 1.26	5.78 ± 0.61	P<0.0001**

In this study, a total of 150 response was recorded from the Engineering students. The findings showed that there was less sensitization among the engineering students. On Comparing Pre and Post Sessions response of Engineering Students in Section A Question No 1, Analysis on sociodemographic characters were made. 88.7% students have heard about breast cancer and the source of information was maximally through Media (Figure 1), the P value was less than 0.0001 which was significant as shown in Table 2.

On Comparing Pre and Post Sessions response of Engineering Students in Section B Question No 5, 6, 9, the P value was less than 0.0001 which was significant as shown in Table 2. Almost 40.2% of students have not heard about Breast Self-Examination. 60% respondents were not taught about the appropriate method of Breast Self-Examination. According to the response recorded 73.3% stated that BSE should be started after 20 Years in Pre-Session questionnaire whereas the post session questionnaire concluded that there was a positive impact.

On Comparing Pre and Post Sessions response of Engineering Students in Section C Question No 12,13,14,16,21,22,23, the P value was less than 0.0001 which was significant as shown in Table 2. According to the results only 66.7% respondents knew that BSE should be done by the individual. 20% reported that it should be done by the doctor. Out of the 150 respondents surveyed, 60% of the respondents felt that BSE should be done by feeling the breast with the hand in the pre-session while in the post session there was an increase in knowledge by 15%. 66.7% respondents have heard about mammography out of which 33.3% respondents agreed that mammography is a useful tool for early detection of breast cancer. In the Post-session there was a significant impact in knowledge and 78.2% respondents knew that mammography is a useful tool for early detection of breast cancer.

In this study, On Comparing Pre and Post Sessions response of Engineering Students in Section D which consists of Attitude based questions Question No 25,26,27,28, the P value was less than 0.0001 which was significant as shown in Table 2. The results show that nearly 20% students feel funny, uncomfortable and embarrassing while performing BSE before the awareness session. The post session questionnaire revealed a positive attitude towards practicing BSE. 98% respondents did not feel funny, uncomfortable or embarrassing while performing BSE. The willingness to create awareness significantly increased after the session. The post session results revealed a positive gain in response stating 100% response in terms to create awareness about Breast Self-examination in the society.

Hence, the session created awareness on knowledge, practice and change in attitude on Breast self-examination in engineering students.

Table 3 Comparison Between Medical And Engineering Students

Average gain in medical and engineering students	Medical Students Mean± SD gain	Engineering Students Mean± SD gain	P value
--	-----------------------------------	---------------------------------------	---------

Section B: knowledge of breast cancer and breast cancer prevention	0.6±0.77	1.14 ±1.08	P<0.0001**
Section C: knowledge and practice of self-breast examination	1.5 ± 1.44	2.25 ± 2.03	P=0.0002**
Section D: attitude based	1.26 ± 0.70	0.80± 1.18	P<0.0001**

On comparison of the knowledge gained by medical and engineering students, section B question No 5, 6, 9 definitely showed more Knowledge was gained in engineering students as compared to medical students as shown in table 3. There was highly significant gain in both Medical and Engineering students, due to the awareness session. Similarly, in Section C Question No 12,13,14,16,21,22,23, there was significant difference in knowledge perceived between Engineering Students as compared to medical Students.

On comparing section D-Attitude based Question No 25,26,27,28, there was a significant difference, it was more in Medical Students as compared to Engineering Students.

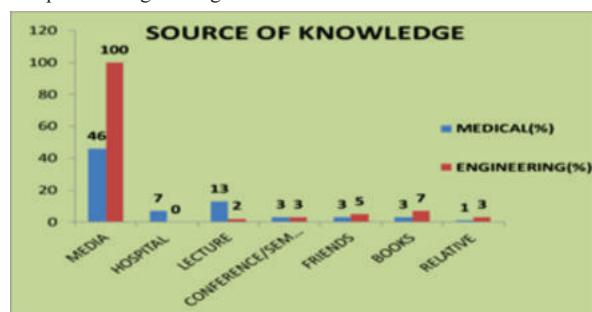


Figure 1: Source of Knowledge

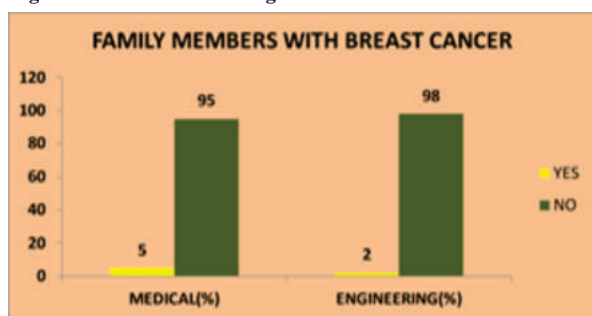


Figure 2: Family members with Breast cancer

DISCUSSION:

According to our findings, more than half of the study population 50.2 % were not aware of Breast Self-Examination. 75% of the research participants did not perform breast self-examinations on a regular basis. However, there was a considerable improvement in knowledge, practise, and attitude change that was reported following the awareness session. Ngua et al.,¹⁸ it was found that the training and awareness session on Breast Self-Examination had no effect. Taşhan ST et al. reported in their study that the training offered had a short-term influence on the women's behaviour, with the effect being mostly related to breast self-examination.¹⁹ In the current study, there was an increase in knowledge and a positive shift in attitude regarding Breast Self-Examination in the post-session over the pre-session. The knowledge and practise rate of Breast Self-Examination was higher in medical students than in engineering students in the pre-session response, but the gain in knowledge was greater in engineering students in the post-session response than in medical students because medical students were already aware of and were taught the proper method of Breast Self-Examination. BSE appears to be preventive (reduction in Breast Cancer mortality) at all ages, according to cohort research in Finland and a case-control study in Canada. There has recently been discussion on the significance of frequent breast self-examination in avoiding breast cancer mortality. The education of BSE, on the other hand, can make women aware of any abnormal changes in their breasts and seek medical care as soon as possible. As rightly quoted at the proceedings of the international consensus conference "Positive health-care behaviour can go a long way toward raising public health awareness and health-seeking behaviour".^{20,21}

According to Champion and Miller, sociodemographic characteristics can impact attitudinal variables, which can then influence behavioural patterns indirectly. There are various direct links between experimental and demographic characteristics as well as potential indirect links to BSE behaviour²². The only important variable in this study was being informed, creating awareness, and teaching the correct method of Breast Self-Examination. Similarly, Lager Lund's study indicated that having a sufficient degree of breast cancer and breast self-examination knowledge was a positive effective factor²³. Women who are taught to do BSE had a higher degree of understanding regarding breast cancer, according to Hyun's research²⁴. The main reason for selecting the age group 18-25 was to ensure that these young females are aware of the proper technique for breast self-examination, as well as we aimed that these 300 students will raise awareness in the society, and help others to identify and detect any abnormal changes in the breast, resulting in early detection of breast cancer and, ultimately, a lower female mortality rate. The levels of pre- and post-training knowledge, as well as the actual risks of breast cancer among these women, were examined in this study.

REFERENCES:

- Akram M, Iqbal M, Daniyal M, Khan AU. Awareness and current knowledge of breast cancer. *Biol Res*. 2017 Oct 2;50(1):33. doi: 10.1186/s40659-017-0140-9. PMID: 28969709; PMCID: PMC5625777.
- Gasalberti D. Early detection of breast cancer by self-examination: the influence of perceived barriers and health conception. *Oncol Nurs Forum*. 2002 Oct;29(9):1341-7. doi: 10.1188/02.ONF.1341-1347. PMID: 12370704.
- Dündar, P.E., Özmen, D., Öztürk, B. et al. The knowledge and attitudes of breast self-examination and mammography in a group of women in a rural area in western Turkey. *BMC Cancer* 6, 43 (2006). <https://doi.org/10.1186/1471-2407-6-43>
- Udoh, Roseline H et al. "Women's knowledge, attitude, and practice of breast self-examination in sub-Saharan Africa: a scoping review." *Archives of public health = Archives belges de sante publique* vol. 78 84. 22 Sep. 2020, doi:10.1186/s13690-020-00452-9
- Parkin D.M., Cancer in developing countries, *Trends in Cancer Incidence and Mortality Cancer Surveys*; 19/20, 519 – 555 (1994)
- World Health Organisation, *Conquering Suffering, Enriching Humanity*; The World Health Report. WHO Geneva; 22–39 (1997)
- Adebusoye LA, Fatiregun AA, Ogunbode OO, Ogunbode AM. Breast examination as a cost-effective screening tool in a clinical practice setting in Ibadan, Nigeria. *Afr J Prim Health Care Fam Med*. 2013;5(1):1–7. [Google Scholar]
- Wilke LG, Broadwater G, Rabiner S, Owens E, Yoon S, Ghate S, Scott V, Walsh R, Baker J, Soo MS, Ibarra-Drendall C. Breast self-examination: defining a cohort still in need. *Am J Surg*. 2009;198(4):575–579. [PubMed] [Google Scholar]
- Agbo HA, Chingle MP, Envaladu EA, Zoakah AI. Breast Self-Examination-A Necessary Preventive Tool: Knowledge and Practice among Students of College of Education Gindiri, Plateau State. *Jos J Med*. 2012;6(1):47–53. [Google Scholar]
- Kösters JP, Götzsche PC. Regular self-examination or clinical examination for early detection of breast cancer. *Cochrane Database Syst Rev*. 2003;2003(2):CD003373. doi: 10.1002/14651858.CD003373. PMID: 12804462; PMCID: PMC7387360.
- Klarenbach S, Sims-Jones N, Lewin G, Singh H, Thériault G, Tonelli M, et al. Recommendations on screening for breast cancer in women aged 40–74 years who are not at increased risk for breast cancer. *Can Med Assoc J*. 2018;190: E1441-51. doi:10.1503/cmaj.180463
- Rao R.S.P., Nair S. and Nair N.S. et al., Acceptability and effectiveness of breast health awareness programme for rural women in India, *India J Med Sci*, 59, 398-402 (2005).
- Boulos DN, Ghali RR. Awareness of breast cancer among female students at Ain Shams University, Egypt. *Global Journal of Health Science*. 2013 Nov;6(1):154-161. DOI: 10.5539/gjhs.v6n1p154. PMID: 24373275; PMCID: PMC4825266.
- Reisi, Mahnouch et al. "Factors affecting cigarette smoking based on health-belief model structures in pre-university students in Isfahan, Iran." *Journal of education and health promotion* vol. 3 23. 21 Feb. 2014, doi:10.4103/2277-9531.127614
- Kalliguddi S, Sharma S, Gore CA. Knowledge, attitude, and practice of breast self-examination amongst female IT professionals in Silicon Valley of India. *J Family Med Prim Care*. 2019;8(2):568-572. doi: 10.4103/jfmpc.jfmpc.315_18
- Niksic, M., Rachet, B., Warburton, F. et al. Cancer symptom awareness and barriers to symptomatic presentation in England—are we clear on cancer? *Br J Cancer* 113, 533–542 (2015). <https://doi.org/10.1038/bjc.2015.164>
- Rahman SA, Al-Marzouki A, Otum M, Khalil Khayat NEH, Yousuf R, Rahman P. Awareness about Breast Cancer and Breast Self-Examination among Female Students at the University of Sharjah: A Cross-Sectional Study. *Asian Pac J Cancer Prev*. 2019 Jun 1;20(6):1901-1908. doi: 10.31557/APJCP.2019.20.6.1901. PMID: 31244316; PMCID: PMC7021607.
- Ngu SF, Wei N, Kwan TTC, et al. Impact of different educational interventions on psychosocial well-being of women with a positive high-risk human papilloma virus and normal cervical cytology: A randomised trial. *J Psychosom Obstet Gynaecol*. 2018; 39:146-55. PMID: 28391730; doi: 10.1080/0167482X.2017.1312335.
- Taşhan ST, Derya YA, Uçar T, Nacar G, Erci B. Theory-based training to promote breast cancer screening among women with breast cancer worries: randomized controlled trial. *Sao Paulo Med J*. 2020;138(2):158-166. doi:10.1590/1516-3180.2019.033430092019
- Schwartz GF, Hughes KS, Lynch HT, Fabian CJ, Fentiman IS, Robson ME, et al. Proceedings of the international consensus conference on breast cancer risk, genetics, and risk management, April, 2007. *Cancer* 2008; 113:2627-37.
- Agarwal G, Ramakant P. Breast Cancer Care in India: The Current Scenario and the Challenges for the Future. *Breast Care (Basel)* 2008; 3:21-7.
- Champion VL, Miller TK. Variables related to breast self-examination. *Psychology of Women Quarterly* 1992; 16:81-86.
- Lagerlund M, Hedin A, Sparen P, Thurfjell E, Lambe M: Attitudes, beliefs, and knowledge as predictors of nonattendance in a Swedish population-based mammography screening program. *Preventive Medicine* 2000, 31:417-428
- Nystrom L: How effective is screening for breast cancer. *British Medical Journal* 2000, 16:647-49