KAP STUDY

Breast cancer awareness among pharmacy and physiotherapy students of medical university Nawabshah

Rao Irfan, Hisbullah Memon, Ishfaque Nazeer Umrani, Habibullah Soomro

Abstract

Objective: To evaluate the knowledge and awareness of students at a medical university regarding possible risk factors and screening modalities of breast cancer.

Methods: The cross-sectional study was conducted from January to April 2019 at the People's University of Medical and Health Sciences for Women, Nawabshah, Pakistan, and comprised young female students from first year to final year at the Institute of Pharmaceutical Sciences and the Institute of Physiotherapy and Rehabilitation Sciences of the university. Data was collected using a predesigned questionnaire, and was analysed using SPSS 21.

Results: Of the 450 students approached, 375(84%) completed the questionnaire. The mean age of the participants was 21.06±1.164 years (range: 18-26 years). Overall, 225(60%) students said contraceptive pills could increase the risk of breast cancer, 267(71.2%) agreed that breast-feeding could reduce cancer risk, while 361 (96.27%) students had good mammography and clinical breast examination knowledge. Also, 308(82.13%) respondents knew about breast self-examination, but were not aware of its procedure.

Conclusion: Majority of the subjects had knowledge and awareness about breast cancer, its risk factors, diagnostic parameters and possible treatment options, but they did not have knowledge regarding the procedures of breast self-examination.

Keywords: Breast cancer, Risk factors, Mammography, Breast self-examination. (JPMA 71: 297; 2021)

DOI: https://doi.org/10.47391/JPMA.550

Introduction

Globally, cancer is one of the most significant health problems.[1] Cancer is expected to be ranked as the most leading cause of overall deaths from non-communicable diseases and contributing as a fundamental barrier to increasing life expectancy for the world in the 21st century. In 2015, the World Health Organisation (WHO) reported cancer as the second foremost cause of death at age <70 years in 91 out of 172 countries, while it stood third or fourth in an additional 22 countries.[2]

Worldwide, the most prevalent cancer among females is breast cancer.[3] A woman's breast normally consists of glands, or lobules, to generate milk, stroma, which contain connective tissues and fatty tissues, milk-carrying ducts originating from the lobules to the nipples, and lymphatic as well as blood vessels.[4] Breast cancer is a malignant tumour that develops from breast cells. Mostly, it begins in the breast ducts, sometimes in breast lobules and rarely in stromal tissues before it proliferates from its originating site and metastasing into various parts of the body.[3,4]

In Asia, the most common cancer in women is breast cancer, and, after lung cancer, it is the second most common cause of cancer deaths.[5] Among the total cancer cases, it comprises 23% and its prevalence as a common female malignancy is increasing globally.[1] Breast cancer is diagnosed in more than 1.2 million women annually.[6] Through 2008, annually 458,000 females died from breast cancer and 1.3 million new cases for breast cancer were reported.[7]

Breast cancer is the most commonly diagnosed cancer (1 in 5 patients) amongst females in Pakistan.[8] Compared to other Asian countries, Pakistan has the highest age-standardised prevalence rate of breast cancer and it is about 2.5 times of that in Iran and India. Of the female cancer patients registered at the Nuclear Medicine, Oncology and Radiotherapy Institute (NORI), Islamabad, breast cancer constitutes 33% of its patients.[6,9]

About 5,000 female patients with breast cancer were diagnosed and treated at atomic energy cancer hospitals (AECHs) in 2015-16. About 85% of the entire cancer patient burden of Pakistan is borne by Pakistan Atomic Energy Commission (PAEC) hospitals, and each year the turnout of patients is amplified by about 8-10%.[10] Under-diagnosis related to breast cancer is the key reason for increased death rate in Pakistan. Diagnosis is made at a very late stage in rural regions due to lack of awareness.[11]

Institute of Pharmaceutical Sciences, Peoples University of Medical Health Sciences for Women, Nawabshah, Pakistan.

Correspondence: Rao Irfan. Email: raoirfan1@pumhs.edu.pk

Many of the possible characteristics attesting to be risk factors include family history, weight, age, hormonal changes, reproductive factors, physical activity and smoking. Females belonging to middle class families are considerably at high risk of breast cancer, having advancing age, higher body mass index (BMI) and a high proportion of incomplete pregnancies.[10] The risk could be decreased to a certain degree by keeping a healthy body mass, breastfeeding and physical workout.

Some screening methods for early detection, like mammography, clinical breast examination (CBE) and breast self-examination (BSE), are used. At initial stage when breast cancer is just a localised growth, annual mammography is thought to be the utmost useful procedure for diagnosis.[12] At the population level mammographic screening might not be the best technique for early diagnosis of breast cancer due to lack of adequate resources in middle-income countries, including Pakistan. CBE assures cancer reduction at the diagnostic stage because of early detection of symptoms. BSE is not studied for downsizing the tumour at the diagnostic stage, but it improves early identification and reporting of symptoms of breast cancer.[11]

The current study was planned to assess the awareness and knowledge of students at a medical university regarding the risk factors of breast cancer.

Subjects and Methods

The cross-sectional study was conducted from January to April 2019 at the People's University of Medical and Health Sciences for Women, Nawabshah, Pakistan. After approval from the institutional ethics review committee, the sample size was calculated based on 5% margin of error and 95% confidence level using Rao software.[13]

The sample was raised using non-probability convenience sampling method from among young female students from the first to the final year of studies at the university's Institute of Pharmaceutical Sciences and the Institute of Physiotherapy and Rehabilitation Sciences. All medical, nursing and public health students were excluded.

After taking consent from the subjects, data was collected using a pre-designed questionnaire which explored 6 domains: demographics; level of awareness about possible risk factors of breast cancer; awareness about the signs and symptoms of breast cancer; awareness about the diagnostic modalities of breast cancer, especially the attitude of the participants towards mammography and CBE; assessment regarding BSE practice; and knowledge about possible treatment options, including chemotherapy, radiotherapy, lumpectomy and mastectomy.

Data was analysed using SPSS 21.

Results

Of the 450 students approached, 375(84%) completed the questionnaire. The mean age of the participants was 21.06±1.164 years (range: 18-26 years). The majority of the participants belonged to the rural areas of Sindh province (Figure-1).

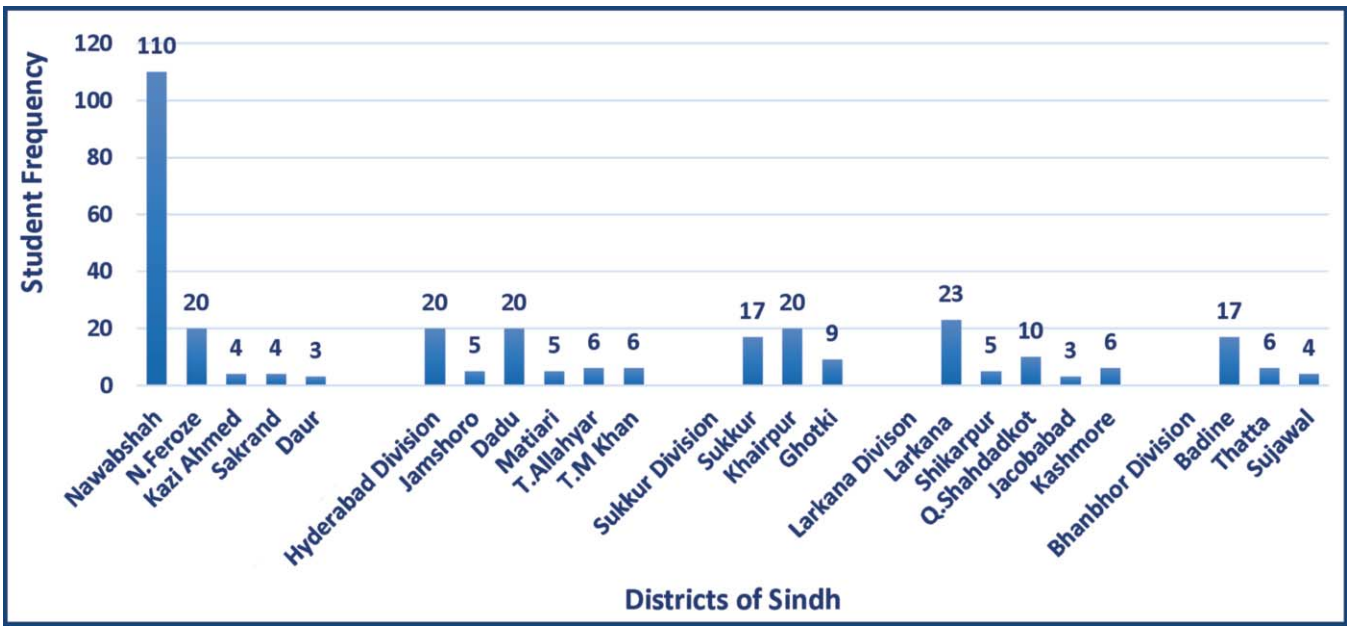

Figure-1: Area-wise distribution of participants.

Table: Awareness of students about breast cancer risk factors.

S #	Awareness about risk factors	Yes	No
1	The possibilities of breast cancer increase with advancing age?	330 (88%)	45 (12%)
2	The Positive family history can increase the risk of breast cancer?	261 (69.6%)	114 (30.4%)
3	Is any type of cancer contagious?	116 (30.93 %)	259 (69.0 %)
4	Is poor personal hygiene enhancing the risk of breast cancer?	278 (74.1 %)	97 (25.8 %)
5	Is smoking have any contribution to increase the risk of breast cancer?	300 (80 %)	75 (20 %)
6	Is alcohol consumption a threat for breast cancer?	252 (67.2 %)	123 (32.8 %)
7	Does junk food intake increase the risk of breast cancer?	233 (62.13 %)	142 (37.8 %)
8	Is obesity a risk for breast cancer?	303 (80.8 %)	72 (19.2 %)
9	Can injuries to the breast cause breast cancer?	293 (78.13%)	82 (21.87%)
10	Does breast feed either cause or prevent breast cancer?	108 (28.8%)	267 (71.2%)
11	Can birth control pills cause breast cancer?	225 (60%)	150 (40%)

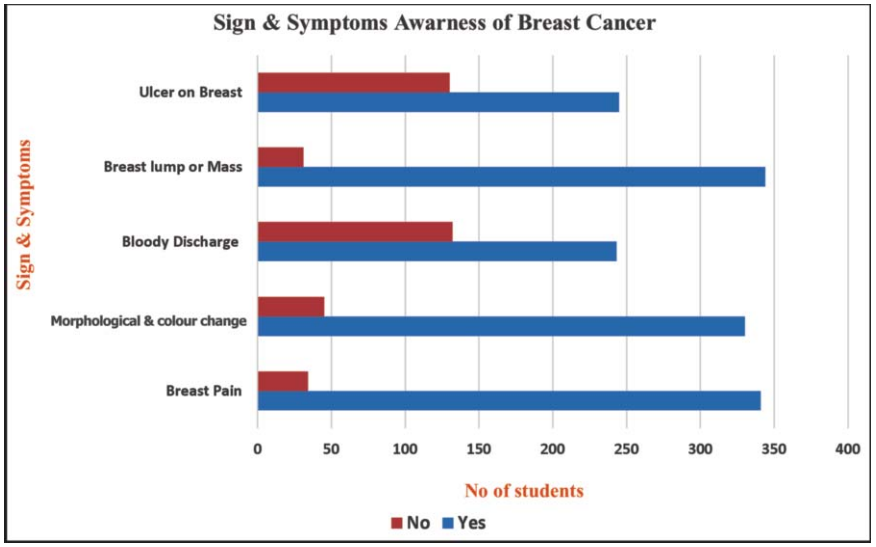

Figure-2: Signs and symptoms awareness of breast cancer.

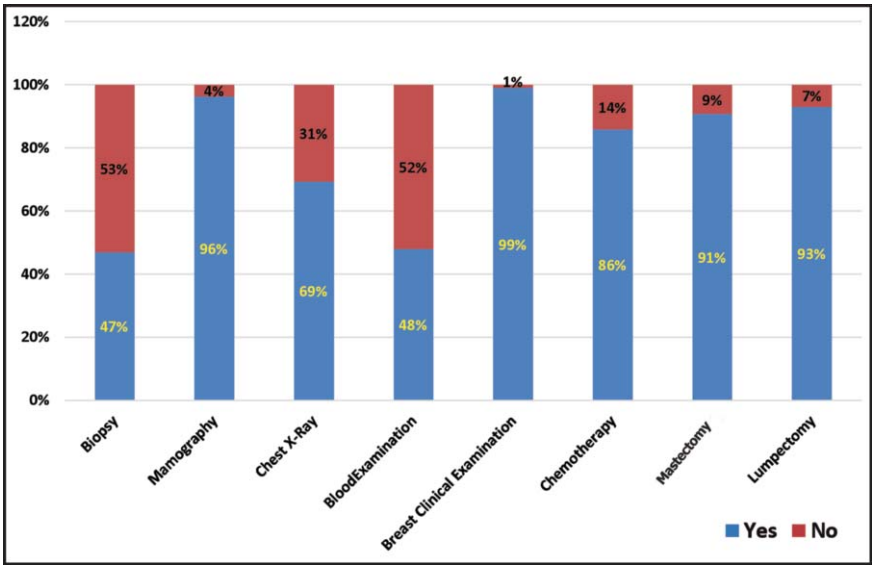

Figure-3: Diagnostic modalities and treatment.

Overall, 330(88%) subjects knew that breast cancer chances increased with advancing age, 261(69.6%) had knowledge that the risk of breast cancer increased with positive family history, 259(69.06%) claimed that breast cancer is not a contagious disease, and 278(74.13%) agreed that poor personal hygiene enhanced the risk of breast cancer. A significant number of participants agreed that alcohol consumption, junk food intake and obesity were the leading risk factors of breast cancer, and 267(71.2%) marked that breast-feeding can decrease the risk of breast cancer, while 225(60%) claimed that contraceptive pills increased the risk of breast cancer (Table).

Further, 243(64.8%) students responded that bloody discharge from the nipple in unmarried females might be an early symptom of breast cancer; 341(90.93%) had knowledge that breast pain can be the cause of breast carcinoma; 352(93.86%) responded that existence of lump in breast was significant indicator of cancer in breast; and 330(88%) were aware of the morphological changes in the presence of breast carcinoma (Figure-2).

Regarding diagnostic and treatment modalities, 176(46.93%) students pointed biopsy as a tool for diagnosis; 180(48%) marked blood examination; 260(69.33%) marked chest X-ray; 361(96.26%) marked mammography

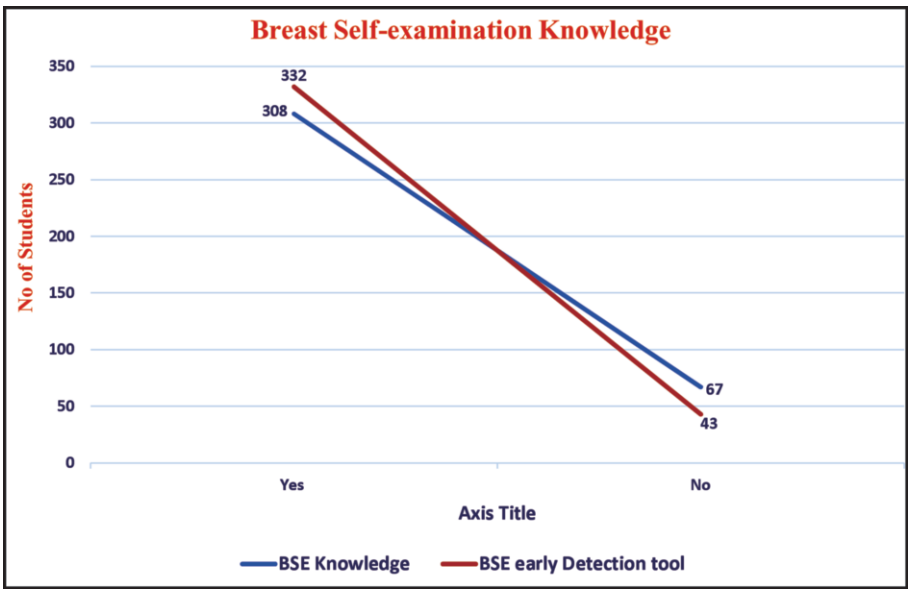

Figure-4: Awareness of Breast self-examination.

and 371(98.93%) marked BCE as a diagnostic modality for breast cancer. Also, 322(85.86%) participants pointed chemotherapy, 287(76.53%) radiotherapy, 349(93.07%) lumpectomy and 340(90.67%) marked mastectomy as treatment options for breast cancer (Figure-3).

With regards to BSE, 308(82.13%) participants had knowledge about BSE, and 332(88.53%) agreed that BSE is an important tool for the early detection of breast cancer symptoms. There was poor association between the knowledge and practice of BSE (Figure-4).

Discussion

The current study highlighted the awareness of breast cancer among the students of a medical university in Nawabshah, Sindh. The students will have interaction with the community in their professional lives and they can educate the masses about breast cancer and its modalities.[14] Although the awareness of Pharmacy and Physiotherapy students was comparatively better than the other university students of general disciplines,[15] the overall knowledge was insufficient because they ranged from the first year to the final year, and most of them were from the rural areas of Sindh. More than 85% students agreed that advancing age increased the risk of breast cancer. However, studies have shown that females have suffered in early ages but were diagnosed later in developing and under-developing countries.[16]

A significant number of participants agreed that poor personal hygiene, alcohol consumption, obesity and junk food intake increased the risk.[17] Various studies on cancers explained these factors as potential risk factor in breast cancer, but physical inactivity and tobacco use are the foremost sources of non-communicable illnesses, including different kinds of cancers.[18]

About 60% of the students agreed that the usage of contraceptive pills was the enhancing risk factor for breast cancer. A few studies have reported the positive association between breast cancer and long-term usage of contraceptive pills.[19]

About 96% participants of the current study had sufficient knowledge about mammography, which is considered an early detection tool for screening of breast cancer, but is quite costly and out of the reach for people living in rural areas of Sindh.[8]

About 71% participants pointed out that breast-feeding decreased the risk of breast cancer. Studies have reported that the number of pregnancies and breast-feeding decreased the numbers of menstrual cycles in a female life and minimised the total exposure to endogenous hormones.[20]

While 82% students had heard about BSE, over 50% of them did not know its procedure.

Conclusion

Majority of participants had knowledge about breast cancer, its risk factors, diagnostic parameters and possible treatment options, but they did not have knowledge regarding BSE procedure. Intervention is needed to cover this gap between BSE knowledge and practice in order to detect this problem at an early stage.

Disclaimer: None.

Conflict of Interest: None.

Source of Funding: None.

References

1. Bano R, Ismail M, Nadeem A, Khan MH, Rashid H. Potential Risk Factors for Breast Cancer in Pakistani Women. Asi pac J cancer Prev 2016; 17: 4307-12.
2. Bray F, Ferlay J, Soerjomataram I. Global Cancer Statistics. Estimates of Incidence and Mortality Worldwide for 36 Cancers. CA:Cancer J Clin 2018; 68: 394-424.
3. Javed S, Ali M, Ali F, Anwar SS, Wajid N. Status of oxidative stress in breast cancer patients in Pakistani population. Adv Life Sci

2015; 2: 115-8.
4. Ayesha T, Muhammad AT, Azhar K. Prognosis, Prevalence Trend and Different Treatment Options of Breast Cancer in Pakistan. Austin J Cancer Clin Res 2016; 3: 1066.
5. Ghoncheh M, Mahdavifar N, Darvishi E, Salehiniya H. Epidemiology, Incidence and Mortality of Breast Cancer in Asia. Asi Pac J Cancer Prev. 2017; 17: 47-52.
6. Mahmood H, Faheem M, Mahmood S, Sadiq M, Irfan J. Impact of age, tumor size, lymph node metastasis, stage, receptor status and menopausal status on overall survival of breast cancer patients in Pakistan. Asi Pac J Cancer Prev 2015; 16: 1019-24.
7. Sarwar MZ, Shah SFH, Yousaf MR, Ahmad QA, Khan SA. Knowledge, attitude and practices amongst the Pakistani females towards breast cancer screening programme. J Pak Med Assoc 2015; 65: 1075-8.
8. Gilani GM, Kamal S, Akhter AS. A Differential Study of Breast Cancer Patients in Punjab, Pakistan. J Pak Med Assoc 2013; 53: 12-4.
9. Tajamal N, Tajamal R, Tajamal S. Incidence and Prognosis of Breast Cancer among the Females of Islamabad. Int J Cancer Res Ther 2019; 4: 1-5.
10. Firdous S. Breast Cancer Epidemiology, Screening, Treatment and Awareness in Pakistan. Cancer Ther Oncol Int J 2017; 7: 8-10.
11. Iqbal M, Khan MA, Rabbani U, Zafar S. Screening & Awareness of Breast Cancer in an Urban Slum of Pakistan: A Pilot Study. J Cancer Sci Clin Oncol 2018; 5: 1-5.
12. Rafique S. Breast Cancer Awareness, Attitude and Screening Practices Among University Students: Intervention Needed. Biomed J Sci Tech Res 2018; 4: 4-7.
13. Mukeshimana MM, Nkosi ZZ. Communities' knowledge and perceptions of type two diabetes mellitus in R wanda: a questionnaire survey. J Clin Nursing. 2014:541-9.
14. Rebuan HB, Othman HB, Hassan NM, Moe M, Mohamad NQ. Breast cancer knowledge among nursing students in public university. Malays J Nur 2018; 10: 3-7.
15. Oldenmenger WH, Geerling JI, Mostovaya I, Vissers KC, de Graeff A, Reyners AK, et al. A systematic review of the effectiveness of patient-based educational interventions to improve cancer-related pain. Cancer treat reviews. 2018; 63: 96-103.
16. Khalis M, Charbotel B, Chajès V, Rinaldi S, Moskal A, Biessy C, et al. Menstrual and reproductive factors and risk of breast cancer: A case-control study in the Fez region, Morocco. PloS one 2018; 13: 191333.
17. Sung H, Siegel RL, Torre LA, Pearson Stuttard J, Islami F, Fedewa SA, et al. Global patterns in excess body weight and the associated cancer burden. CA: Cancer J Clin 2019; 69: 88-112.
18. Andò S, Gelsomino L, Panza S, Giordano C, Bonofiglio D, Barone I, et al. Obesity, Leptin and Breast Cancer: Epidemiological Evidence and Proposed Mechanisms. Cancers 2019; 11: 62.
19. Iversen L, Fielding S, Lidegaard O, Mørch LS, Skovlund CW, Hannaford PC. Association between contemporary hormonal contraception and ovarian cancer in women of reproductive age in Denmark: prospective, nationwide cohort study. BMJ 2018; 362: 3609.
20. Katuwal S, Tapanainen JS, Pukkala E, Kauppila A. The effect of length of birth interval on the risk of breast cancer by subtype in grand multiparous women. BMC cancer 2019; 19: 199.