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AWARENESS OF BREAST CANCER AND KNOWLEDGE, ATTITUDE AND PRACTICE OF BREAST SELF-EXAMINATION(BSE) AMONG MEDICAL, PARA MEDICAL FEMALE PROFESSIONALS AND FEMALE STUDENTS

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ABSTRACT **Background:** Breast cancer (BC) has become the most common cancer in women in developing countries. Unfortunately, most women are not aware of Breast cancer symptoms/signs, prevention, and management. In resource-limited countries like India where we do not have structured screening/awareness programs, a majority of women present with locally advanced BC. The aim of our study is to identify the present status of awareness about BC prevention, early detection, symptoms, and management in Indian women (medical, paramedical, and nonmedical) and to assess whether education and socioeconomic strata have any role in better awareness about BC or not. **Methods:** We did a prospective cross-sectional observation study among the 311 medical, paramedical, and nonmedical women. We designed a questionnaire keeping in mind the three domains about BC—knowledge (questions include risk factors, genetics, lifestyle changes, hormones, associated cancers, and modes of presentation like lump, nipple/skin changes), breast self-examination, and attitude to prevention and early detection. We also asked how many do breast self-examination (BSE). A pretested structured questioner was used to collect the needed information from respondents. Data was entered in MS excel, and analysed and presented by frequency table. **Conclusion:** It is concluded that though awareness regarding breast cancer was good but there was poor knowledge and practice about screening test.

KEYWORDS : Breast self-examination, Practice, Breast cancer, Awareness

INTRODUCTION:

Cancer, often described as the defining plague of our generation is not one disease but a cluster of diseases. We call them all cancer as they share a fundamental feature: the abnormal growth of cells garnished with its extensive vasculature leaving one's body cachexic in the end. Cancer continues to be a worldwide killer, despite the enormous amount of research and rapid developments seen during the past decade. Cancer truly emerges, as a nineteenth-century surgeon once wrote in a book's frontispiece, as "the emperor of all maladies, the king of terrors." [1] It is one of the commonest life-threatening disease ever known to mankind but still not given sufficient priority today because of its classification under non-communicable diseases.

According to the statistics, invasive cancer is the leading cause of death in the developed countries and the second leading cause of death in the developing countries.[2] Deaths from cancer were 5.8 million in 1990[3] and rates have been increasing primarily due to an aging population and lifestyle changes in the developing world.[3] The most significant risk factor for developing cancer is old age [4]. According to cancer researcher Robert A. Weinberg, "If we lived long enough, sooner or later we all would get cancer."[5] So if prevention is not possible, a better option which remains is awareness about it for an early diagnosis as it has been proven that one-third of all cancers if diagnosed early are curable. This observation demands that cancer control should be of increasing priority in the health care programs of developing countries.[6,7]

Worldwide, one of the leading causes of mortality and morbidity in females is invasive cancer of the breast. The female breast is of great significance as it serves many purposes other than their function in feeding infants which include social and sexual characteristics. Breasts have been featured in notable ancient and modern sculpture, art, and photography. Female breasts can figure prominently in a woman's perception of her body image and sexual attractiveness. A number of Western cultures including India associate breasts with sexuality and tend to regard bare breasts and discussing about it as immodest or indecent. This being one of the major reasons why suffering from breast cancer causes embarrassment and lowers one's self esteem. This hampers awareness about it decreasing its early detection. Breast cancer comprises 22.9% of the invasive cancers in women [8] and 16% of all female cancers [9]. In 2008, breast cancer caused 458,503 deaths worldwide (13.7% of cancer deaths in women and 6.0% of all cancer deaths for men and women together) [8].In a developing country like India, incidence of breast cancer has risen from 22% to 27% in the last four years [10].The leading factor of morbidity and mortality here is detection of cancer at a very late stage. This is directly related to lack of awareness of Breast cancer. If a woman is well aware of the normal appearance and the physiological changes that occur in her breasts, she tends to report immediately if she finds any abnormality in them. Therefore, spreading awareness about early detection is must.

The main methods of screening involve mammography, physical examination of the breasts by a physician or qualified health workers or clinical breast examination (CBE), and breast self –Examination (BSE). Despite the advent of modern screening methods, more than 90% of cases of cancers of the breast are detected by women themselves, stressing the importance of breast self – examination. [11] The main purpose of a BSE is to learn the topography of the breasts; which in turn will make it possible for one to notice changes in the future in order to detect breast masses or lumps. Breast self –examination, carried out once monthly, between the 7th and 10th day of the menstrual cycle, goes a long way in detecting breast cancer at the early stages of growth when there is low risk of spread, ensuring a better prognosis when treated.[12]

Woman's awareness of breast cancer is crucial as breast cancer could happen to any woman irrespective of her education, social or cultural background. The ability to identify the difference between normal and abnormal breasts, the knowledge of knowing what to look for and when the time is appropriate for breast screening may help to detect early

stage of breast cancer. The Centre for Disease Control stated that early detection is the best defence against morbidity and mortality of breast cancer.

Another major obstruction a nation like India faces is the population. Therefore, detection via mammography and clinical breast examination is not an option for such a large population. So, awareness about a very basic method known as Breast Self-Examination (BSE) is must. This method being the safest, cheapest and easiest way of detecting any abnormality in the breast comprises of 5 easy steps which should be performed by women every month above the age of 20.

The risk of breast cancer increases with age. The primary factors that increase risk of breast cancer in women include certain inherited genetic mutations, a personal or family history of breast cancer, and biopsy-confirmed hyperplasia. Other factors that increase breast cancer risks include a long menstrual history (menstrual periods that started early and/or ended late in life), obesity after menopause, recent use of oral contraceptives, postmenopausal hormone therapy, never having had children or having the first child after age 30, ethnicity characteristics, exposure to radiation, or consumption of one or more alcoholic beverages per day. [13,14] Factors that decrease breast cancer risks include breastfeeding, moderate or vigorous physical activity, and the maintenance of a healthy body weight. [13]

Breast self-examination is something really important and should be known by all females including those who are not related to the medical field. So, in this study we are targeting Non -Medical Professionals and students. Thus, making an attempt to overcome the barrier or shame of breast cancer and breast self examination and contributing to the war against cancer.

Aim:
To spread awareness about Breast self-examination among all Medical and Para-Medical Female Professionals and Students

Objectives:
1. To study the demographic profile of study population.
2. To study the awareness of breast cancer.
3. To access their Knowledge, Attitude and Practice on BSE.
4. To check the efficacy of teaching BSE among study group.
5. To give recommendations on basis of study.

Methods and Methodology:
Study Design: Analytical Study

Type of Study: Cross sectional Study

Place of study: Mahatma Gandhi mission institute of medical College

Duration of Study: 1 year

Inclusion criteria:
All Medical and Para-Medical Female Professionals and Students who gave consent to participate in the study.

Exclusion criteria:
Medical and Para-Medical Female Professionals and Students who didn't give consent.

Preparation of the questionnaire:
For the purpose of collection of data a simple questionnaire was prepared consisting of 20 questions under 3 subheadings – Knowledge, Attitude and Practice (KAP).This was prepared in one language – English . Questionnaire was circulated in google form format online.

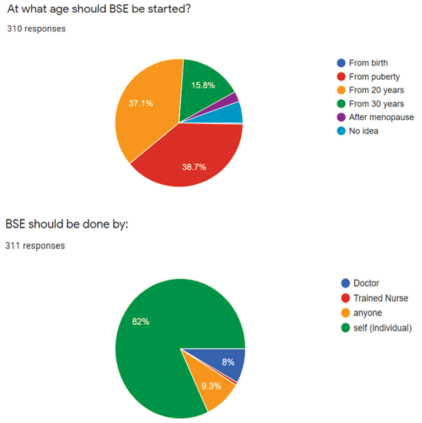
Methodology:
After taking informed consent from the subjects filled the goggle forms. Data collected was entered into MS Excel and data analysis was done using Epi-Info Results were presented in form of proportions and appropriate test of significance was applied.

RESULTS:
Table 1: Knowledge about Risk factors that increases the risk of breast cancer development

S. No.	Risk Factors	<20y ears (%)	20-40years (%)	40-60years (%)	>60 years (%)	Total (%)	X2	P
1.	Growing older increases risk for breast cancer	60.0 %	68.3%	83.3%	76.9%	69.1%	7.13	0.30
2.	Nulliparity	60%	56.9%	83.3%	69.2%	58.5%	7.06	0.31
3.	Late menopause	60.0 %	70.1%	100.0%	84.6%	71.7%	6.4	0.09
4.	Early menarche	20.0 %	53.7%	75.0%	76.9%	55.0%	7.1	0.06
5.	Radiation	80.0 %	93.6%	100.0%	100.0 %	93.9%	3.35	0.34
6.	Postmenopausal obesity	80.0 %	70.8%	75.0%	84.6%	71.7%	7.82	0.25
7.	Oral Contraceptive Pills & Hormone Replacement Therapy	80.0 %	84.3%	91.7%	84.6%	84.6%	0.55	0.90
8.	Alcohol & Smoking	20%	32.7%	16.7%	38.5%	32.2%	1.93	0.58

Table 2: Knowledge about Protective factors that decreases the risk of breast cancer development-

S. No.	Protective Factors	<20y ears (%)	20-40years (%)	40-60years (%)	>60years (%)	Total (%)	X2	p
1.	Oophorectomy	80.0%	45.9%	75.0%	84.6%	49.2%	12.8	0.005
2.	Breast feeding	80.0%	76.5%	100%	100%	78.5%	7.96	0.24



A total of 311 women participated in the study. Most of them (94.5%) were aware of breast cancer and agree that risk of breast cancer increase with high fat diet(72.2%), early menarche (54.7%),late menopause (71.6%), oral contraceptive use and HRT (84.6%) and radiation exposure(94.8%). Only 37.1% of participants were aware when to start breast self examination only 20% practice it.

DISCUSSION:

Thee increase incidence of breast cancer in developing countries prove a challenge to humanity. The absence of any established screening programs in India, it is very important to assess the knowledge and practice of breast self examination in medical fraternity. The present study involves the medical and paramedical staff so that they can be made aware of benefits of self breast examination and practice regularly. Being a part of health care system,they can share the information with the patients, family and friends.

A study was conducted to investigate the knowledge and practices of breast self-examination (BSE) among nursing students in the month of Sept 2005 at National Institute of Nursing Education, Post Graduate Institute of Medical Education and Research, Chandigarh. A questionnaire containing 12 items to assess their knowledge regarding BSE and 6 questions regarding practices of BSE was administered. All the participants were asked to do BSE and a check list was given to them to note the warning signs of breast cancer. [18] Similar attempts are made in our study where instead of nursing students nurses are opted.

In 2012, a study was carried out to assess the knowledge, attitude, and practice (KAP) regarding breast self-examination (BSE) in a cohort of 203 female dental students at Panineeya Institute of Dental Sciences, Hyderabad, Andra Pradesh, India. A cross-sectional descriptive questionnaire study was conducted which is similar to the questionnaire provided in our study. [19]

The present study helps us realise that if awareness and health education programs are carried out it can lead to positive healthy practices.

CONCLUSION:

In conclusion, this study had shown that though awareness regarding breast cancer was good but there was poor knowledge about risk factors and screening test. Breast self-examination which is most sensitive and cost-effective method for early detection of cancer was known by few women and very few of them practice it regularly. Therefore, it is important to educate the women about breast cancer and its risk factors, eliminate the misconception and promote screening for early detection.

Review of Literature:

Breast cancer, a disease chasing mankind since ancient times has been mentioned in almost every period of recorded history. Ancient Egyptians were the first ones to note the disease more than 3,500 years ago as described in the ancient Edwin Smith and George Ebers papyri both. One of their descriptions refers to bulging tumors of the breast that has no cure.[9]

In 460 B.C. when Hippocrates described breast cancer as a humoral disease, he postulated that the body consisted of four humors - blood, phlegm, yellow bile, and black bile and suggested that the etiological factor causing cancer was the excess of black bile. The appearance of the breast cancer was too black and it was observed that hard tumors would burst forth if left untreated to yield a black fluid. He therefore named the cancer karkinos, a Greek synonym for "crab," because the tumors seemed to have tentacles, like the legs of a crab. [9]

In 1713, Bernardino Ramazzini developed a hypothesis that high frequency of breast cancer was seen in nuns due to lack of sexual activity. Ramazzini added that without regular sexual activity, reproductive organs including the breast may decay and develop cancers. As research followed another researcher Friedrich Hoffman of Prussia postulated that women who had a regular sex life but still developed cancer were practicing "vigorous" sex which would lead to lymphatic blockage. [13]

It was then in 1757 when Henri Le Dran, a leading French physician took initiative and suggested that surgical removal of the tumor along with the infected lymph nodes of the armpits could help treat breast cancer. Claude-Nicolas Le Cat argued that surgical therapy was the only method to treat this cancer. This lasted well into the twentieth century which then led to the creation of the radical mastectomy or extensive removal of the breast. [14]

By mid-nineteenth century, surgical therapy was the available option for breast cancer which was aided by the development of antiseptic, anaesthesia and blood transfusion made survival after a surgery more possible. William Halstead of New York made radical breast surgery the gold standard for the next 100 years. He developed radical mastectomy that removed breast, axillary nodes, and both chest muscles in a single piece to prevent spread of the cancer while removing each of these individually. [14]

Radical mastectomy was the mainstay of treatment for the initial four decades of the twentieth century. Although radical mastectomy helped women survive longer, especially if performed early, many denied to go for it since it left them disfigured. In addition, many faced it's complications like a deformed chest wall, lymphedema or swelling in the arm due to lymph node removal and extensive pain.

In 1955, George Crile suggested the capability of cancer to metastasize. In 1976, Fisher published results using simpler breast-conserving surgery followed by radiation or chemotherapy which were just as effective as radical mastectomy. With advent of modern medicine, less than 10 percent of breast cancer-inflicted women had a mastectomy. The development of novel therapies for breast cancer including hormone treatments, surgeries and biological therapies were seen. [14]

Mammography was also developed for early detection of the cancers. Scientists then isolated breast cancer causing genes BRCA 1, BRCA2 and ATM. But as Mammography was a type of radiative screening technique it became hazardous to use it as a screening tool on a large population. It was mandatory to discover the high risk groups to limit the radiation exposure. This was when simple techniques like Breast Self-Examination (BSE) and Clinical Breast Examination gained importance. Clinical Breast Examination didn't show adequate patient compliance as a screening tool. So further research work was done to check the efficiency of BSE.

In 1992, Cornelia J. Baines MD published an article which mentioned a review of publications on BSE up to middle of 1991 showed that evidence supporting has strengthened since 1989.He also stated that BSE is associated with a smaller size of tumor at diagnosis and has the potential to reduce breast cancer mortality if it is performed competently as screening is justifiable when preclinical disease is prevalent. [15] The objectives in this study are similar to our objectives.

Randomized trial on Breast Self-Examination were carried out in Shanghai from 1998.The final results published in 2002 gave a negative conclusion which said that intensive instruction in BSE couldn't reduce mortality from breast

cancer. Programs which favour to encourage BSE in the absence of mammography would be unlikely to reduce mortality arising from breast cancer. Women who choose to practice BSE should be well aware that its efficacy is unproven and that it may increase their chances of having a benign breast biopsy.[15] Contra indicatory to this study, in 2006 by Rosolovich V., Breast Disease Committee of the Society of Obstetricians and Gynaecologists of Canada, Winnipeg, MB, Canada. Carried out a study which suggested that regular teaching of Breast Self-Examination reduces the benign biopsy rates. [16]

Haji-Mahmoodi et al. (2002), conducted a study to find out if the female healthcare workers in Tehran performed BSE monthly.[17]

In 2019 , Heena et al studied a total of 395 health care workers participated in this study. The mean age of the participants was 34.7 years. Participants included physicians (n = 63, 16.0%), nurses (n = 261, 66.1%), and allied health workers (n = 71, 18.0%). Only 6 (1.5%) participants had a good level of knowledge of breast cancer and 104 (26.8%) participants demonstrated a fair level of knowledge. Overall, 370 (93.7%), 339 (85.8%), and 368 (93.2%) participants had heard of breast self-examination, clinical breast examination, and mammography, respectively. A total of 295 (74.7%) participants reported practicing breast self-examination, 95 (24.1%) had undergone clinical breast examination, and 74 (18.7%) had ever undergone mammography .[38].

Health belief model

The Health Belief Model (HBM) was one of the first models to adapt theories from the behavioural sciences in order to examine health related problems. It is still one of the most widely recognised and used models in health behaviour applications. This model was originally introduced by a group of psychologists in the 1950's to help explain why people would or would not use available preventive services, such as chest x-rays for tuberculosis screening and immunisations for influenza [30].

Many investigators studying beliefs related to cancer screening practices have used the HBM as a theoretical framework to study breast cancer screening behaviour such as BSE or mammography screening. [30,31]

The HBM has frequently been applied to breast cancer screening [33]. The model stipulates that health-related behaviour is influenced by a person's perception of the threat posed by a health problem and by the value associated with his or her action to reduce that threat [34].

According to the HBM, a woman who perceives that she is susceptible to breast cancer and that breast cancer is a serious disease would be more likely to perform regular breast examinations. Similarly, a woman who perceives more benefits from and fewer barriers to BSE would be more likely to practice BSE.

A woman who has an internal cue (body perception) or who has been exposed to an external cue (e.g., the positive influence of a health care provider or the media) would also more readily adopt BSE, as would a woman who wants to improve her health and who is confident of positive results [34,35].

The HBM consists of 6 concepts: (1) perceived susceptibility to an illness, (2) perceived seriousness of the illness, (3) perceived benefits for the presumed action, (4) perceived barriers for the presumed action, (5) confidence in one's ability, and (6) health motivation. Behaviour is also a result of the belief that a certain action will benefit the individual and that this benefit will outweigh any barriers [36].

The investigation of attitudinal components of health-related behaviour has been important. If attitudes related to health behaviour can be identified, health protection interventions for attitudinal change can be developed, and an increase in desirable health behaviour would result [37].

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