REVIEW OF LITERATURE

Review of literature related to breast cancer & screening of breast cancer:

1. **Sama et al.,** (2016) conducted a cross-sectional study regarding awareness of breast cancer and breast self-examination among female undergraduate students in a higher teachers training college in Cameroon involving 345 consenting female and data was collected using a pretested self-administered questionnaire and analysed using descriptive methods. The study results showed that the mean age of the respondents was 22.5±3.2years and a vast majority (n = 304, 88.1%) had heard about Breast cancer primarily from the television/radio (n=196, 64.5%). Overall, less than a quarter (n=65, 21.4%) of respondents who had heard about Breast cancer had sufficient knowledge on its risk factors and signs/symptoms. A plurality (53.3%) thought Breast cancer can be prevented via vaccination while over a third (38.7%) opined that Breast cancer can be treated spiritually. Less than half (47%) of respondents who had heard about Breast cancer had heard about BSE amongst which only 55 (38.5%) had ever practiced it.

2. **Siddharth R et. al.,** (2016) did a study on knowledge, attitude and practice about breast cancer and breast self-examination among women seeking out-patient care in a teaching hospital in central India. A random sampling technique was used and study population included 360 women with a mean age of 45.81 (±10.9) years. Only 5 (1.38%) females had a family history of breast cancer. A whopping 81% of women did not have any knowledge about breast cancer. All the women thought that clinical breast examination by doctors was the only way for screening breast cancer.

3. **Abu Shaour L et al.,** (2016) did a study on predictors of breast self-examination performance among Jordanian university female students. A sample of 100 participants was completed the study survey (The Champion's Health Belief Model Scale). The main results or regression analysis showed that confidence (β = .71, p < .0001) and perceived barriers (β = -.061, p = .0004) were significant predictors of breast self-examination performance. In summary, other variables of Health belief model were found not to be significant indicators of BSE performance in this study. However, the Health Belief Model is considered a valid framework to assess the predictors of breast self-examination knowledge, attitude, beliefs and barriers among Jordanian college female students.

4. **Ghahramanian A et al.,** (2016) conducted a study on Relationships of Fear of Breast Cancer and Fatalism with Screening Behavior in Women Referred to Health Centers of Tabriz in
Iran cross-sectional study, 370 women referred to 12 health centers. Only 43% and 23% of participants had undergone breast self-examination and clinical breast examination. Among women older than 40 years, 38.2% had mammography history and only 2.7% of them had done it annually.

5. Naghibi SA et al., (2015) did a study on Sociocultural factors associated with breast self-examination among Iranian women, based on the study findings, the most significant positive behaviors related to perceptual factors included effectiveness of disease background in family and relatives (73%), believing in breast self-examination for pursuing health (93%) and the most important negative behaviors were shyness and modesty (83.9%) and increased worry (78.9%). The most remarkable positive behaviors regarding enabling factors covered the skill to do breast examination oneself (35.2%), the availability of health and therapeutic centers (80.7%) and the most significant negative behavior was being busy and lack of time (85.3%). The most important positive behavior about nurturing factors included family consent (68.9%) and the most significant negative one was the inappropriate treatment of health and therapeutic personnel (61.8%).

6. Akhtari-Zavare M et al., (2015) conducted a study on Health Beliefs and Breast Self-Examination among Undergraduate Female Students in Public Universities in Klang Valley, Malaysia, A cross-sectional study was carried out among 792 female undergraduate students and there was a significant differences between performers and non-performers correlated to age, marital status, check breast by doctor, and being trained about BSE. Performers had lower mean scores for perceived barriers and susceptibility and higher mean score for confidence.

7. Sathian B et al., (2015) did a study on awareness of breast cancer warning signs and screening methods among female residents of Pokhara valley, Nepal, A cross-sectional questionnaire survey was carried out in a community setting with the female population and the findings indicated that the level of awareness of breast cancer, including knowledge of warning signs and BSE, is sub-optimal among Nepalese women.

8. Karadag M, Iseri O, Etikan I (2015) did a study on determining nursing student knowledge, behavior and beliefs for breast cancer and breast self-examination receiving courses with two different approaches on 69 second year nursing students The data of the study were collected pre-training and 15 days and 3 months post-training and In both training groups, the knowledge of breast cancer and BSE, and the perception of confidence increased similarly. In order to raise
nursing student awareness in breast cancer, either of the traditional lecturing method or the Six Thinking Hats Method can be chosen according to the suitability of the teaching material and resources.

9. *Yasli G et al.*, (2015) did a study on Level of knowledge and behavior of family health personnel workers in Izmir about early diagnosis for breast and cervix cancer a total of 970 family health personnel participated in the research. The age range was 20-45 years (82.4%). Mean age was 37.9±7.4. Response rate was 87.3%. Of the participants, 88.4% performed breast self-examination. Rate of performing mammography at least once was 24.1%. Rate of performing Pap-smear examination at least once was 61.0%. In logistic regression analyses, it was determined that people with knowledge on breast and cervical cancer were those performing breast self-examination, mammography and Pap-smear examinations (p<0.05).

10. *Sarwar MZ et al.*, (2015) did a study on Knowledge, attitude and practices amongst the Pakistani females towards breast cancer screening programme descriptive cross-sectional study was conducted 1184 women and the mean score was 12.7±4.9. Positive family history of breast cancer was reported by 156(13.2%) women; 420(35.5%) believed advancing age was a risk factor; 1041(87.9%) never had breast self-examination; 1106(93.4%) never had a clinical breast examination; and 1171(98.9%) never had screening mammogram.

11. *Memon et al.*, (2014) conducted cross sectional study of risk of Breast Cancer among Young Women and Importance of Early Screening among women aged 18 to 25 using a self-administered questionnaire. The results showed that respondents were 18-25 years of age (mean age=21.5). Out of the 300 young females, 90 (30%) had at least one risk factor, 90 (30%) had two, 40 (13%) had three, 8 (2.7%) had four, 2 (0.7%) had five while one female was found to have six positive risk factors for breast cancer. Some 66 women (22%) experienced symptoms of breast cancer such as non-cyclical pain and lumps. While 222 women (74%) had never performed breast self-examination, 22 (7.3%) had had a breast examination done by a health professional while 32 (10.7%) had participated in breast screening programs. A total of 223 (74.3%) women considered breast cancer screening important for young women.

12. *Ardahan et al.*, (2014) did a study on health Beliefs of Nursing Faculty Students about Breast Cancer and Self Breast Examination. The result showed that 85.5% of students had knowledge about cancer, 79.5 % knew of breast cancer, and 65.3% were aware of how BSE is performed. According to the responses of students to the scale of the health belief model that is
used to determine the health beliefs of students, item-point averages of trust and obstacle sub-dimensions were high. It is determined that more than half of students had knowledge about breast cancer and breast self-examination.

13. Doganer YC et al., (2014) conducted a study on Predictors affecting breast self-examination practice among Turkish women, a cross-sectional study was conducted on 376 participants, 78.7% (N=296) reported practicing BSE, whereas 9.5% (N=28) were implementing BSE regularly on a monthly basis, and only 5.7% (N=17) were performing BSE regularly within a week after each menstrual cycle. Younger age groups, family history of breast diseases and not being employed were identified as significant predictors of practicing BSE appropriately. Older age and employment were risk factors for not performing BSE in this sample.

14. Fouladi N et al., (2014) did a study on Beliefs and behaviors of breast cancer screening in women referring to health care centers in northwest Iran according to the champion health belief model scale on total of 380 women aged 30 and above who had referred to health-care centers In this study 27% of the women performed BSE in the last year but only 6.8% of them used mammography as a way of screening. There were significant differences regarding all components of the model except for perceived severity between women that underwent BSE over the past year and those that did not. Findings were similar for mammography. Regression analysis revealed that intentions to perform BSE were predicted by perceived self-efficacy and perceived barriers to BSE while intentions to perform mammography were predicted by perceived barriers.

15. Pengpid S, Peltzer K. (2014) conducted a study on Knowledge, attitude and practice of breast self-examination among female university students from 24 low, middle income and emerging economy countries from 10,810 female undergraduate university students aged 16-30 (mean age 20.7, SD=2.9) from 25 universities in 24 countries across Asia, Africa and the Americas. Overall, 50.4% of the female students indicated that they knew how to conduct BSE. Among all women, 59.3% had never practiced BSE in the past 12 months, 21.3% 1-2 times, 10.3% 3-10 times, and 9.1% monthly. The proportion of monthly BSE was above 20% in Nigeria and Laos and below 2% in Bangladesh, India, Singapore, Russia, and South Africa. Logistic regression found that BSE importance or positive attitude was highly associated with BSE practice.
16. Ghazali SM et al., (2013) conducted a study on Non-practice of breast self-examination and marital status are associated with delayed presentation with breast cancer family history of breast cancer and type of symptom, symptom disclosure and advice from others to seek treatment using multiple logistic regression. Time from self-discovery of symptom to presentation ranged from the same day to 5 years. Prevalence of delayed presentation was 33.1% (95%CI: 27.4, 39.3). A significantly higher proportion of delayers presented with late stages (stage II/IV) (58.3% vs. 26.9%, p<0.001). Divorced or widowed women (OR: 2.23, 95% CI: 1.11, 4.47) had a higher risk of delayed presentation than married women and women who never performed breast self-examination were more likely to delay presentation compared to those who regularly performed BSE (OR: 2.74, 95% CI: 1.33, 5.64).

17. Hussein DM et al., (2013) did a study on Breast cancer awareness and breast self-examination in Northern Saudi Arabia A total of 1000 participants agreed to be involved, out of which 87.7% were females, 7.2% were males and 5.1% had undisclosed gender. The age range for participants was 12-66 years. Out of all participants, 44% did not know that breast cancer is an abnormal growth and 78% failed to recognize its multi-factorial nature, with Increased age being the least recognized single risk factor 4.8%.

18. Shin KR, Park HJ, Kim M. (2012) Practice of breast self-examination and knowledge of breast cancer among female university students in Korea, 2186 female students The Breast Cancer and Heredity Knowledge Scale was used. The results are valuable in developing educational programs that can increase knowledge related to breast cancer, as well as the practice of breast self-examination, to support health promotion among young women.

19. Hajian-Tilaki K, Auladi S., (2012) conducted a study on Health belief model and practice of breast self-examination and breast cancer screening in Iranian women A cross-sectional study of 500 women aged 18-65 years Higher scores on the scales of perceived benefits, perceived confidence/self-efficacy, and health motivation showed significant positive association with performing BSE [adjusted OR (95 % confidence interval [CI]) 1.73 (1.11, 2.72), 4.01 (2.39, 6.73), and 2.01 (1.30, 3.08), respectively] and BREAST CANCERE [adjusted OR (95 % CI) 1.65 (1.0, 2.95), 2.33 (1.39, 3.91), and 1.58 (1.0, 2.53), respectively], but not for performing mammography.

20. Ahmadian M et al., (2012) did a study on Psychosocial Predictors of Breast Self-Examination among Female Students in Malaysia: A Study to Assess the Roles of Body
Image, Self-efficacy and Perceived Barriers Findings from this study indicate that both self-efficacy and perceived barriers to BSE are significant psychosocial factors that influence BSE behavior. These results suggest that health promotion interventions that help enhance self-efficacy and reduce perceived barriers have the potential to increase the intentions of Malaysian women to perform breast self-exams, which can promote early detection of breast cancers.

21. Al-Naggar RA, Al-Naggar DH (2012) conducted a study on Perceptions and opinions about male breast cancer and male breast self-examination: a qualitative study In-depth interviews were conducted among 36 male university students from the Management and Science University Misconceptions regarding male breast cancer and breast self-examination among men still exist among male university students. Therefore special attention should be given to educate men about male breast cancer and male BSE.

22. Tria Tirona M (2012) did a study on Breast cancer screening update For women 40 to 49 years of age, the risks and benefits of screening should be discussed, and the decision to perform screening should take into consideration the individual patient risk, values, and comfort level of the patient and physician. Information is lacking about the effectiveness of screening in women 75 years and older. The decision to screen women in this age group should be individualized, keeping the patient's life expectancy, functional status, and goals of care in mind.

23. Kösters JP, Gøtzsche PC (2003) did a study on Regular self-examination or clinical examination for early detection of breast cancer and two large population-based studies (388,535 women) from Russia and Shanghai that compared breast self-examination with no intervention were included, Data from two large trials do not suggest a beneficial effect of screening by breast self-examination whereas there is evidence for harms. There were no randomized trials of clinical breast examination. At present, breast self-examination cannot be recommended.

Review of literature related to education on breast cancer:

24. Tuna A et al., (2015) conducted a Study on effectiveness of online education in teaching breast self-examination 1,679 women participated, the participants scored an average of 46.5 (14.0%) on knowledge on breast self-examination before training, but 77.4 (11.0%) one month after education and 76.7 (9.52%) after six months there was a clear significant difference between these knowledge levels (p<0.05). similarly, while the rate for systematic practice
of breast self-examination among women was 30.8% before training it increased to 47.8% afterwards. Again the difference was significant (p<0.05).

25. Hassan L M et al., (2015) conducted evaluation study of effect of self-examination and physical examination on breast cancer. A total of 12,660 women aged 35-64 years, 6330 in the intervention group and 6330 in the control group, were randomly selected from four areas of Yazd city, I.R. of Iran. The study results showed that there is no significance difference between the two groups was seen in respect to socio-demographic and socio-economic variables (P > 0.05). Subjects in the intervention group had a response rate of 83.5% for attending the health center and 80.2% for visiting the assigned surgeon. A total of 31 and 13 new cases of breast cancer were identified in the intervention and control groups, respectively, of which 48.5% of cases in the intervention group were <50 year of age. A significant difference between the cumulative incidences of breast cancer in the two groups with a ratio of 2.4 was observed.

26. Parsa P et al., (2015) conducted quasi-experimental study on effects of Breast Self-Examination Consultation Based on the Health Belief Model on Knowledge and Performance of Iranian Women Aged over 40 years. The results showed that before the intervention, no significant differences were observed in knowledge, health belief and practice between two groups. However, after the intervention a significant difference was observed between two groups in mean scores of perceived benefits, perceived barriers, self-efficacy and the health motivations (<0.05). Significant differences were also observed in terms of knowledge and breast self-examination practice (<.01).

27. Desouky DE, Taha AA (2012) conducted study on effects of a training program about breast cancer and breast self-examination among female students at Taif University. The result of studies showed that none of the participants had ever practiced BSE before training, and only 16% of them believed that BSE is necessary, whereas 8.7% were willing to teach others BSE. There was limited knowledge of breast cancer. After the training program, a significant improvement was observed in all knowledge items, and 83.6% of the students practiced BSE compared with 0% practice before training.

Review of literature related to risk factors associated with on breast cancer:

28. Jerônimo AF, Freitas ÂG, Weller M., (2016) conducted a study on risk factors of breast cancer and knowledge about the disease: an integrative revision of Latin American studies about risk and knowledge on breast cancer. Of 47 studies selected, 20 were about knowledge or
awareness and 27 about risk of breast cancer. English was the dominant language in studies about risk, whereas studies about knowledge were mainly written in Spanish or Portuguese. Studies about knowledge were all cross-sectional, whereas case-control studies dominated authors' interest about risk of breast cancer. Studies about knowledge were mainly focused on early detection of the disease and the most common study objective was breast self-examination (N = 14). In contrast, few studies about risk of breast cancer focused on early detection (N = 5). Obesity and overweight (N = 14), family history (N = 13), decreased parity (N = 12), and short breastfeeding duration (N = 10) were among the most frequent identified risk factors.

29. Paul S et al., (2015) conducted a study on A cross-sectional population based survey was conducted on Breast Cancer Associated Risk Factors and Screening Practices among 560 women, 500 (89%) responded (age group 18-65 years), 53.8% were married. The knowledge about BSE was very low (16%) and out of them 15.6% were practiced BSE only once in life time, The study revealed that the awareness about risk factors and practiced of BSE among women in Varanasi is extremely low in comparison with other cities and countries.

30. Al-Sharbatti S et al., (2014) conducted a study on Breast self-examination practice and breast cancer risk perception among female university students in Ajman and It was found that 22.7% of the participants practiced BSE but only 3% of them practiced BSE monthly. Marital status but not age as significantly associated with age likelihood. The most frequent reported barriers for BSE were lack of knowledge, considering oneself not at risk and the absence of doctor advice.

31. Paul S, Solanki PP, ShahiUP, Shrikrishna S (2015), has did the cross section survey Study on Breast Cancer Associated Risk Factors and Screening Practices among Women in the Holy City of Varanasi, Uttar Pradesh, India. The researcher found that among 560 women 500 (89%) responded (age group 18-65 years), 53.8% were married. The knowledge about BSE was very low (16%) and out of them 15.6% were practised BSE only once in life time. study shown that majority women achieve their parity was 20 years, & 50% women have achieved their parity from age 18 to 30 yrs. Very well-known awareness about risk factors of breast cancer were alcohol (64.6%), smoking (64%) and least known awareness risk factors were early menarche (17.2%) and use of red meat (23%). The recovery factors of breast cancer cases were doctors support (95%) and family support (94.5%) as most familiar responses.
STATEMENT OF PROBLEM

EFFECTIVENESS OF PUBLIC EDUCATION AND SCREENING OF BREAST CANCER AMONG MIDDLE AGED WOMEN IN ORDER TO RELATE THE LIFE STYLE FACTORS WITH IDENTIFIED CASES AT RAJKOT, GUJARAT.