

A Comparative Study to Assess the Knowledge Regarding Breast Self-Examination among Urban and Rural Women in Selected Hospitals at Amritsar, in a View to Develop an Information Booklet

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Abstract

Breast self-examination (BSE) involves feeling one's breast in a specific manner at the same time every month and recognize suspicious lumps from normal lumps and bumps. A world based study showed that the overall performance of BSE was quite low with only 15 % women reporting a once a month performance while 23% reported performing BSE irregularly. Cancer is a Pan societal problem that affects 2/3 of the world's population. Breast cancer is the most common type of cancer diagnosed among women, both in the developing and developed countries. It is known to be the 2nd leading cause of death in women worldwide with nearly 1 out of 8 women developing breast cancer all over the world. The present study was non experimental study to assess and compare the knowledge regarding breast self-examination among urban and rural women in selected hospitals at Amritsar, with the help of questionnaire which consist of 30 questions. The samples were drawn using probability sampling method that includes simple random sampling technique. The result indicates that 6% urban women having inadequate knowledge, 48% urban women having moderate knowledge and 46% urban women having adequate knowledge regarding breast self-examination. The data shows that for the urban women obtained range; maximum score, mean, standard deviation, and mean percentage of knowledge questionnaire were 11–20, 30, 19.8, ± 4.8 and 66%, respectively. The result indicate that 16% rural women having inadequate knowledge, 76% rural women having moderate knowledge and 8% rural women having adequate knowledge regarding breast self-examination. The data shows that for the rural women obtained range, maximum score, mean, standard deviation, and mean percentage of knowledge questionnaire were 11–20, 30, 14.76, ± 4.5 and 49.2% respectively. The result indicate that the overall urban women mean knowledge score found to be 19.8 with SD ± 4.8 as compared to overall rural women mean knowledge score noticed as 14.76 with SD ± 4.5 . The data subjected for statistical unpaired t-test showed a highly significant difference ($p < 0.05$) existing between urban and rural women over all mean knowledge score ($t = 5.36$). In relation to urban samples Chi-square test result depicts the significant impact of occupation, education and marital status on the knowledge score of urban women on breast self-examination. In relation to rural samples Chi-square test result depicts the significant impact of occupation, education and marital status on the knowledge score of rural women on breast self-examination. It indicates that urban women have more knowledge regarding breast self-examination.

Keywords: breast self-examination, cancer, lump

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INTRODUCTION

“Life is a one way – street, and we are not coming back” – Anonymous.

Every year we celebrate Women’s Day, encouraging today’s women to step ahead in life. In India, due to modern education, electronic, print media and health agencies, women are becoming more and more aware of their health status. Although women have made progress in most of the field but still they tend to neglect their own health. According to the World Health Organization, reproductive health is defined as a state of physical, mental and social well-being in all matters relating to the reproductive system at all stages of life. Reproductive health implies that people are able to have a satisfying and safe sex life and that they have the capability to reproduce and the freedom to decide if, when and how often to do so. Reproductive health is a crucial part of general health and central feature of human development. In general, women have the risk of developing cancer as a consequence of complications of pregnancy and child birth, risks in preventing unwanted pregnancy, abortion and burden of contraception. Besides, women are also likely to suffer from various other types of cancer *viz.*, cervix cancer, breast cancer, vulvar cancer, etc.

Today’s world is in the grip of numerous ferocious diseases. One of most prevalence is “Cancer.” Cancer is a chronic disease requiring ongoing management, rather than a terminal illness. It is characterized by uncontrolled growth and spread of abnormal cells. Normal mechanism of growth and proliferation is disturbed that is characterized by distinctive morphologic alterations of the cell and aberrations in the tissue patterns. The malignant cell is able to invade the surrounding tissue and regional lymph nodes. Primary cancer generally has a predictable natural history and a spread pattern. Metastasis is the secondary growth of the primary cancer in

a different organ. Metastasis initiates with local invasion followed by detachment of cancerous cells that disseminate through the lymphatic and blood vessels and eventually establish a secondary tumor in another area of the body. Lymph nodes are often the first site of distant spread. Cancers in all forms are responsible for about 12% of deaths worldwide; globally breast cancer is the most common malignant neoplasm among women. Breast cancer causes 376,000 deaths worldwide; about 900,000 women are diagnosed every year with the disease. In India, breast cancer is the second most prevalent cancer among Indian women.

Breast has been regarded as a symbol of bodily, sexually and motherhood feeling for any women. The potential loss of a breast may be devastating for many women due to the significant psychological, social, sexual and body image implications associated with it: The breasts, also called as mammary glands, are accessory glands of a female’s reproductive system. In males they exist only in a rudimentary form. In females, breasts are small and immature until puberty. Thereafter, they grow and develop under the influence of estrogen and progesterone. Mammary glands consist of glandular tissue, fibrous tissue and fatty tissue. The female breasts are a pair of mammary glands that develop in response to secretions from the hypothalamus, pituitary gland and ovaries. Functionally, the breasts are an accessory of the productive system meant to nourish the infant after delivery. Lactation is the secretion of colostrums or mature milk from the breast. Breasts are located between the second and sixth ribs, between the edge of the sternum and the mid axillary line. About 2/3rd of the breast diameter is over the greater pectoral muscle and 1/3rd is superficial to the anterior serratus muscle[1].

Breast cancer is abnormal and uncontrolled growth of cells within breast. It is a malignant tumor that has developed from breast cells. Ductal carcinomas originate are those which originates from the ducts while those originating from lobules are known as lobular carcinomas. Breast cancer is a disease of humans while the overwhelming majority of cases in humans are women.^[2]

A risk factor is anything that increases your chance of getting a disease. For example smoking is a risk factor for cancers of the lung, mouth, larynx, bladder, kidney, and Ischemic heart diseases. But having risk factor does not mean that the disease is certain. Risk factors also can be divided into risk determinants and risk modulators. A woman with cancer in one breast has a 3–4-fold increased risk of developing a new cancer in the other breast or in different part of the same breast. Being a woman is risk factors for breast cancer. Incidence of breast cancer in male is very low. Men account for approximately 1% of all breast cancer cases. Incidence of breast cancer is low before 40. In absolute term, advancing age is the greatest risk for developing breast cancer. About 17% of the invasive breast cancer diagnoses are found in women that are in their 40s while 78% of the women diagnoses the same invasive breast cancer when they are in 50s or older.^[3]

Other risk factors of breast cancer are hereditary as a result of gene changes (called mutations), race (white women), early menarche and late menopause, family history, history of breast and uterine cancer, oral contraceptives and hormonal replacement therapy, null parity and late menstruation and obesity, etc.^[4–10]

Early breast cancer is usually symptom less. But there are some symptoms develop

as the cancer advances. Breast lumps or breast mass is the main symptoms of the breast cancer. Lump is usually painless, firm to hard and usually with irregular borders. Every lump is not cancerous, sometimes some lumps or swelling in the breast tissue may be due to hormonal changes or benign (not harmful) in nature. Beside these some others symptoms are important like Lump or mass in the armpit (upper outer quadrant), change in the size or shape of the breast, abnormal nipple discharge, usually bloody/clear-to-yellow/green fluid, may look like pus (purulent), change in the color/feel of the skin of the breast, nipple, or areola, dimpled, redness, itching, breast pain, enlargement, tenderness or any other discomfort. Symptoms of advanced disease are bone pain, weight loss, swelling of arm and skin ulceration.^[4]

Usually, breast cancers are not painful. It is the woman who identify first when there is changes in her breasts. If breast cancer is found at an early stage this improve the chances of recovery by giving immediate and prompt treatment. So, it is important and required that all the women who have their menarche started should have the knowledge and perform breast self-examination monthly.^[11]

Mostly the 50–75% of all breast cancer are detected by women themselves. Early detection and effective treatment are important to reduce morbidity and mortality. So, breast self-examination is one of the important steps of identifying breast tumor at an early stage. Thorough clinical examination and patient education about breast self-examination can have a crucial impact on early identification of breast cancer. Consequently, early diagnosis will ultimately enhance the survival rate.^[5]

Although breast self-examination simple, quick and cost free procedure. Self-examining the breast is initial step in the screening method used in an attempt to detect early breast cancer. The method involves the women looking herself at and feeling each breast to find any abnormalities such as breast lumps, swelling, changes in the breast shape, size or contour. Information regarding breast cancer awareness is an informal alternative for structured breast self-examination. Although 80% of lumps are not cancerous such discoveries can ultimately lead to detection of breast cancer-thereby making sure to schedule an annual clinical breast examination with a licensed medical care provider to supplement the breast self-examination. It is important to perform breast self-examination routinely, so that a women knows what her breast normally feels and look like resulting quicker identification of anything abnormalities, breast self-examination procedure take <5–10 min, and should be done in a few days after the end of menstruation, perform the exam on the same day each month.^[6,12]

The effectiveness of breast self-examination in mortality reduction is controversial however, some scholars argue that practicing breast self-examination makes women more 'breast aware'.^[13–33] Contrary to it, in developing countries like Malaysia where national mammography screening program for early detection of breast cancer is unavailable, breast self-examination is an acceptable option in increasing breast health awareness.^[34]

The goal of the breast self-examination is for women to notice changes in the breast that should be brought to the attention of physician for further evaluation, these include breast lumps, changes in the breast shape, size or contour. Randomized trials have shown decrease in breast cancer mortality among women performing

monthly breast self-examination. Despite this, the American cancer society recommends monthly breast self-examination for women beyond the age of 20.^[12]

An Indian based study revealed that 42% women had heard about BSE, very few (15%) admitted to performing BSE on a regular (monthly) basis whereas high proportion (23%) said that they did perform BSE regularly.^[13]

Breast self-examination will enable women to be aware of the structured own breasts so, that she may readily recognized any deviation in the way they look or feel. Nevertheless conformity to regular practice breast self-examination requires constant motivation and the recognition that breast cancer is the potential hazards. Although today's women are aware of their problems, the readiness to seek help from health personnel is hindered by economic constraints, social stigma and rigid superstitious or beliefs regarding health problems. Therefore, it is important to provide information to women regarding their health problems through the available community resources. It is required to empower them with correct information and demonstrate the correct methods of performing breast self-examination.^[35]

So, Breast Self-Examination is the best, cost-effective method to recognize & detection of breast cancer in early stages. It can decrease the load of surgeries and chemotherapy for the treatment of breast cancer.

Much emphasis is required on improvising early breast cancer screening, including comprehensive community education, culturally tailored and linguistically appropriate materials, and improved access to low cost screening sites. Future work should focus on actual determinants and facilitators of regular screening behavior

within a theoretical framework thereby incorporating cultural, ethnic and socioeconomic diversity.^[14]

REVIEW OF LITERATURE

A study conducted a on the incidence of the breast cancer among urban and rural women in India. 100 samples were selected for the study by convenient sampling technique. There were various risk factors of breast cancer to come into play. These include late age at first childbirth, fewer children and shorter duration of breast-feeding. The result showed that incidence of breast cancer is much higher in India compared to western countries. The incidence varies between urban/rural women; the incidence in Mumbai is nearly 27 new cases/100,000 women/year while in rural Maharashtra it is only 8/100,000. The chances of cure in women who develop the diseases are related to early diagnosis.^[36]

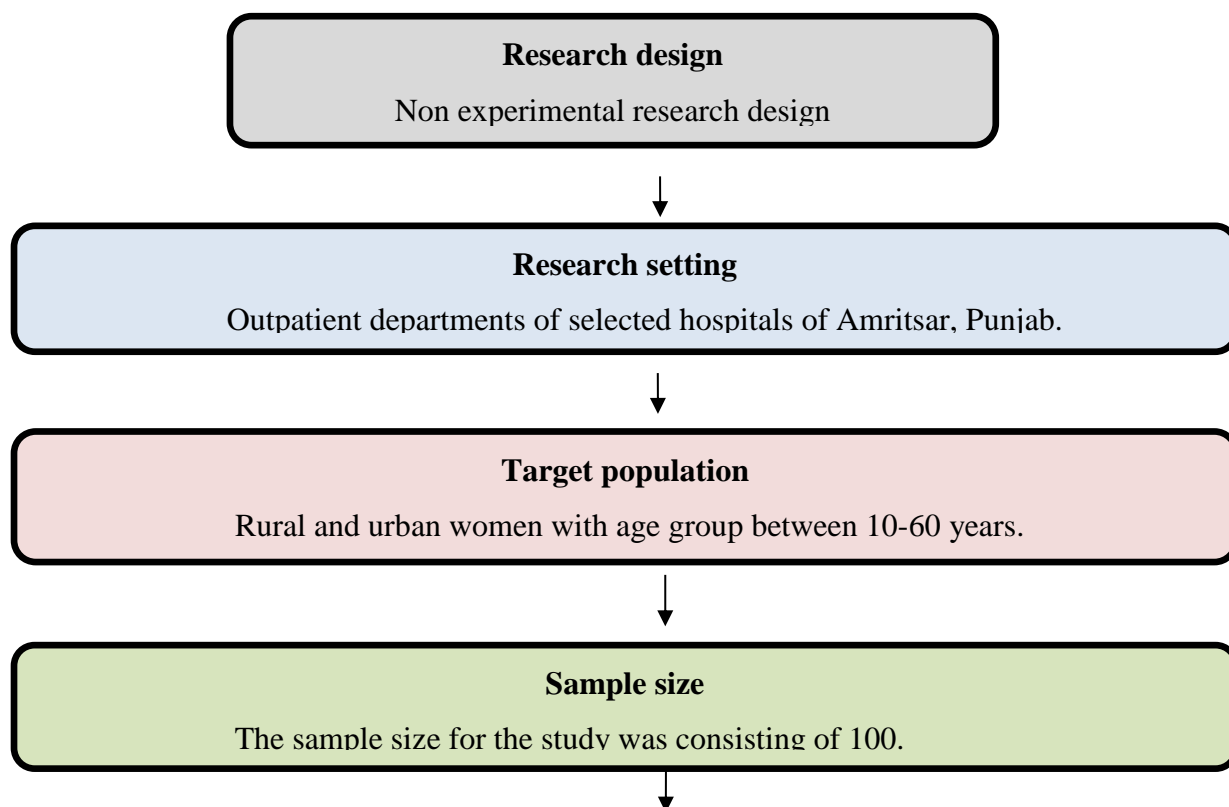
A study conducted on incidence and prevalence of breast cancer among urban

and rural women in India, on 100 samples. The finding revealed that the incidence rate of breast cancer for Urban Indian Women is 18 to 25/1, 00,000 whereas for India Rural Women it is 8.6 per lakh. Due to lack of awareness and poverty, even after knowledge of the presence of breast lump, the patient goes very late for treatment. In India, 80,000 new cases are detected each year.^[21]

A study conducted on incidence of breast cancer in 2001 showed that out of the total 800,000 new cancer cases, 80,000 cases were of the breast cancer. The average incidence rate of breast cancer in India is 16/100,000 in rural settings. Average age of reporting symptoms in India is 45–54 years. About 60–80% of the total cases usually present at a locally advanced stage. Henceforth, early detection is the key to better treatment and survival.^[37]

Methodology

Figure 1 shows the methodology flow chart.



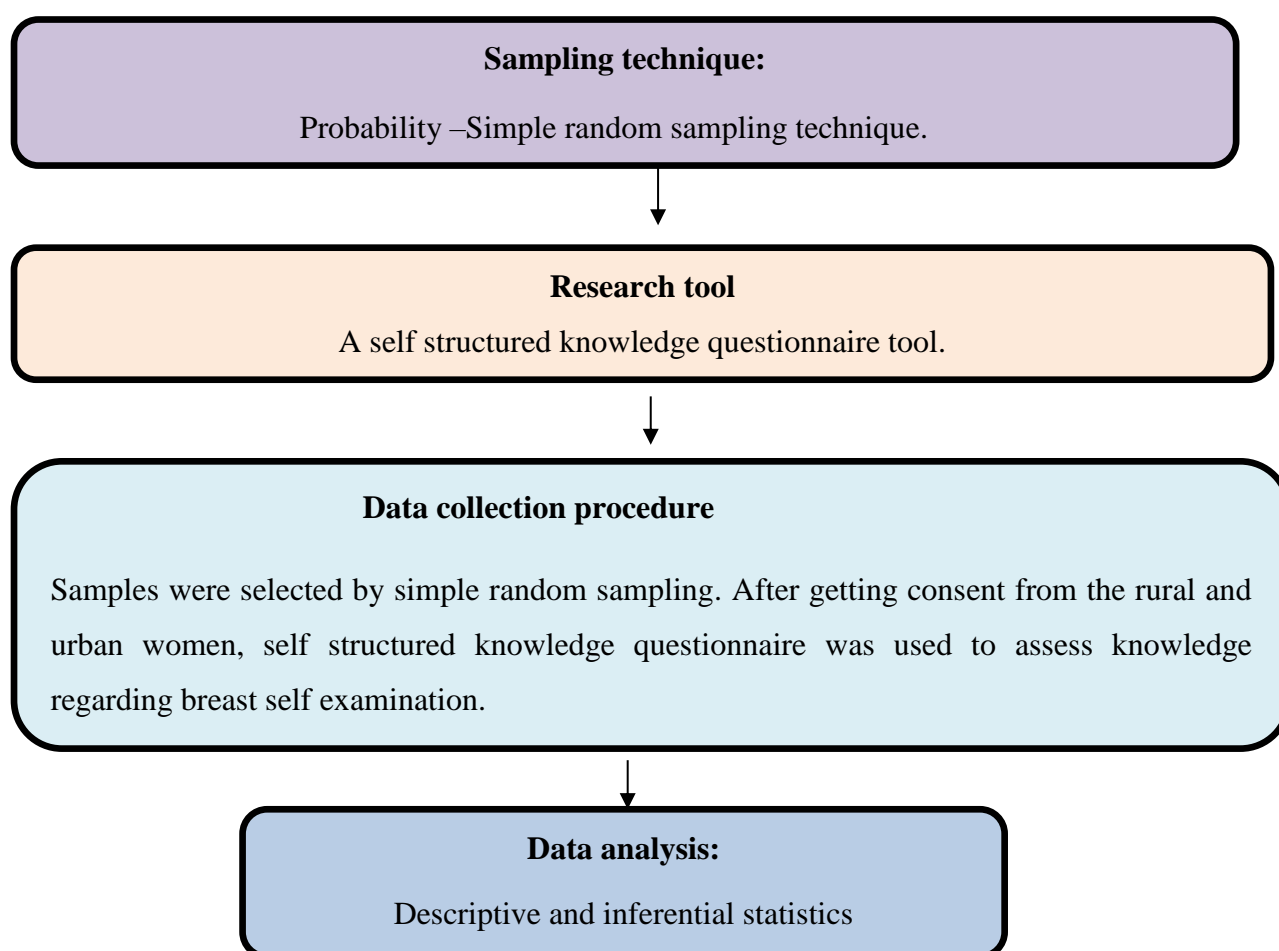


Fig. 1. Methodology Flow Chart.

OBJECTIVES

The objectives of the study were:

- (1) To assess the knowledge score regarding Breast Self-Examination among urban women.
- (2) To assess the knowledge score regarding the Breast Self-Examination among rural women.
- (3) To compare knowledge score of urban and rural women regarding breast self-examination.
- (4) To associate the knowledge score of urban and rural women regarding breast self-examination with their selected demographic variables.
- (5) To develop an information booklet on Breast Self-Examination.

ANALYSIS AND INTERPRETATION

Objective 1

To assess the level of knowledge of urban women regarding the breast self-examination (Table 1).

The data presented in Table 1 depicts that 6% urban women have inadequate knowledge, 48% urban women have moderate knowledge and 46% urban women have adequate knowledge regarding breast self-examination. There is a significant difference in knowledge of urban women regarding breast self-examination (Table 2).

The data depicted in the Table 2 show that the range (11–20), maximum score (30), mean (19.8), standard deviation (± 4.8), and mean percentage (66%) of knowledge questionnaire.

Objective 2

To assess the level of knowledge of rural women regarding the breast self-examination (Table 3).

There is a significant difference in knowledge of rural women regarding breast self-examination.

Table 1. Frequency and Percentage Distribution of Knowledge of Urban Women Regarding the Breast Self-Examination, n = 50.

| Knowledge level | Grading of knowledge score | Frequency | Percentage (%) |
|-----------------|----------------------------|-----------|----------------|
| Inadequate | 0–10 | 3 | 6 |
| Moderate | 11–20 | 24 | 48 |
| Adequate | 21–30 | 23 | 46 |

Table 2. Obtained Range of Score, Maximum Score, Mean, Standard Deviation (SD), Mean Percentage (%) of Knowledge Scores of Urban Women.

| Obtained range | Maximum Score | Mean | SD | Mean (%) |
|----------------|---------------|------|------|----------|
| 11–20 | 30 | 19.8 | ±4.8 | 66 |

Table 3. Frequency and Percentage Distribution of Knowledge of Rural Women Regarding the Breast Self-Examination, n = 50.

| Knowledge level | Grading of knowledge score | Frequency | Percentage (%) |
|-----------------|----------------------------|-----------|----------------|
| Inadequate | 0–10 | 8 | 16 |
| Moderate | 11–20 | 38 | 76 |
| Adequate | 21–30 | 4 | 8 |

Table 4. Obtained Range of Score, Maximum Score, Mean, Standard Deviation (SD), Mean Percentage (%) of Knowledge Scores of Rural Women.

| Obtained range | Maximum Score | Mean | SD | Mean (%) |
|----------------|---------------|-------|------|----------|
| 11–20 | 30 | 14.76 | ±4.5 | 49.2 |

The data depicted in the Table 4 show that the range (11–20), maximum score (30), mean (14.76), standard deviation (±4.5), and mean percentage (49.2%) of knowledge questionnaire.

examination. This section deals with the comparison of knowledge of urban and rural women regarding breast self-examination.

SECTION-IV

Objective 3

To compare the knowledge score of urban and rural women regarding breast self-

The comparison of knowledge regarding breast self-examination among urban and rural women is studied by applying unpaired *t*-test and its significance also tested.

Table 5. Findings of Comparison of Knowledge Among Urban and Rural Women Regarding Breast Self-Examination. N = 100.

| Areas | Maximum score | Mean score | SD | Unpaired <i>t</i> -Test |
|-------|---------------|------------|------|-------------------------|
| Urban | 30 | 19.8 | ±4.8 | 5.36 |
| Rural | 30 | 14.76 | ±4.5 | |

Highly Significant at 0.05 Level.

Table 5 depicts that the overall urban women mean knowledge score found to be 19.8 (±4.8) as compared to overall rural

women mean knowledge score noticed as 14.76 (±4.5).

The data subjected for statistical unpaired *t*-test showed a highly significant difference ($p < 0.05$) existing between urban women and rural women over all mean knowledge score ($t = 5.36^*$).

SECTION-V

Objective 4

To associate the knowledge score of urban and rural women regarding breast self-

examination with their selected demographic variables. This section deal with association between the levels of knowledge regarding breast self-examination related to demographic variables. The cross-tabulation analysis was employed effectively and the results of chi square analysis were observed and shown in Table 5.

Table 6. Frequency and Percentage Distribution of Chi-Square Test Showing Association Between Knowledge and Selected Demographic Variables of Urban Women. N=50.

| Sr. no. | Demographic variables | Total frequency | Level of knowledge | | | | | | Calculated value at p 0.05 level | df | Table value |
|---------|-------------------------|-----------------|--------------------|----|----------|----|------------|---|----------------------------------|----|-------------|
| | | | Adequate | | Moderate | | Inadequate | | | | |
| | | | F | % | F | % | F | % | | | |
| 1. | Age in years | | | | | | | | | | |
| a. | 10–20 | 12 | 8 | 16 | 3 | 6 | 1 | 2 | 8.33 N.S. | 8 | 15.51 |
| b. | 21–30 | 8 | 4 | 8 | 4 | 8 | 0 | 0 | | | |
| c. | 31–40 | 12 | 6 | 12 | 6 | 12 | 0 | 0 | | | |
| d. | 41–50 | 14 | 4 | 8 | 9 | 18 | 1 | 2 | | | |
| e. | 51–60 | 4 | 1 | 2 | 2 | 4 | 1 | 2 | | | |
| 2. | Education | | | | | | | | 17.84 S | 6 | 12.59 |
| a. | Primary | 8 | 0 | 0 | 6 | 12 | 2 | 4 | | | |
| b. | Secondary | 12 | 3 | 6 | 8 | 16 | 1 | 2 | | | |
| c. | Graduate | 14 | 9 | 18 | 5 | 10 | 0 | 0 | | | |
| d. | Above Graduate | 16 | 11 | 22 | 5 | 10 | 0 | 0 | 16.84 S | 6 | 12.59 |
| 3. | Occupation | | | | | | | | | | |
| a. | Skilled worker | 10 | 5 | 10 | 5 | 10 | 0 | 0 | | | |
| b. | House wife | 20 | 3 | 6 | 14 | 28 | 3 | 6 | | | |
| c. | Private job | 14 | 10 | 20 | 4 | 8 | 0 | 0 | 3.9 N.S. | 2 | 5.99 |
| d. | Government job | 6 | 5 | 10 | 1 | 1 | 0 | 0 | | | |
| 4. | Type of family | | | | | | | | | | |
| a. | Joint | 20 | 6 | 12 | 13 | 26 | 1 | 2 | | | |
| b. | Nuclear | 30 | 17 | 34 | 11 | 22 | 2 | 4 | 6.88 N.S. | 6 | 12.59 |
| 5. | Income | | | | | | | | | | |
| a. | <5000 | 20 | 6 | 12 | 12 | 24 | 2 | 4 | | | |
| b. | 5000–10,000 | 10 | 6 | 12 | 3 | 6 | 1 | 2 | | | |
| c. | 10,000–15,000 | 14 | 9 | 18 | 5 | 10 | 0 | 0 | 21.45 S | 4 | 9.49 |
| d. | >15,000 | 6 | 2 | 4 | 4 | 8 | 0 | 0 | | | |
| 6. | Marital status of women | | | | | | | | | | |
| a. | Single | 15 | 7 | 14 | 8 | 16 | 0 | 0 | | | |
| b. | Married | 32 | 16 | 32 | 15 | 30 | 1 | 2 | 3 | 0 | 0 |
| c. | Others | 3 | 0 | 0 | 1 | 2 | 2 | 4 | | | |

F=frequency, df=degree of freedom, S=significant, N.S.=not significant.

Table 6 shows that association of urban women knowledge scores of breast self-

examination with selected demographic variables. Chi-square-test result depicts the

significant impact of education, occupation and marital status on the knowledge score of urban women knowledge scores of breast self-examination as the calculated value is more than tabulated value at 0.05 level of significance.

The impact of age, family, income on knowledge of urban women found to be nonsignificant as the calculated value is less than tabulated value at 0.05 level of significance.

Objective 4

To associate the knowledge score of urban and rural women regarding breast self-

examination with their selected demographic variables.

SECTION V

Association between the levels of knowledge score of rural women regarding breast self-examination. This section deals with association between the levels of knowledge regarding breast self-examination related to demographic variables. The cross tabulation analysis was employed effectively and the results of chi square analysis were observed and shown in Table 6.

Table 7. Frequency and Percentage Distribution of Chi-Square Test Showing Association Between Knowledge and Selected Demographic Variables of Rural Women. N=50.

| Sr. no. | Demographic characteristics | Total frequency | Level of knowledge | | | | | | Calculated value at p 0.05 level | df | Tablevalue |
|---------|-----------------------------|-----------------|--------------------|-------|-------|---------------------|-------|-------|----------------------------------|----|------------|
| | | | Adequate | | | moderate inadequate | | | | | |
| | | | F (%) | F (%) | F (%) | F (%) | F (%) | F (%) | | | |
| 1. | Age in years | | | | | | | | 6.11 N.S. | 8 | 15.51 |
| a. | 10-20 | 8 | 1 | 2 | 7 | 14 | 0 | 0 | | | |
| b. | 21-30 | 12 | 1 | 2 | 10 | 20 | 1 | 2 | | | |
| c. | 31-40 | 14 | 1 | 2 | 11 | 22 | 2 | 4 | | | |
| d. | 41-50 | 8 | 1 | 2 | 5 | 10 | 2 | 4 | | | |
| e. | 51-60 | 8 | 0 | 0 | 5 | 10 | 3 | 6 | | | |
| 2. | Education | | | | | | | | 14.99 S | 6 | 12.59 |
| a. | Primary | 10 | 0 | 0 | 6 | 12 | 4 | 8 | | | |
| b. | Secondary | 4 | 0 | 0 | 2 | 4 | 2 | 4 | | | |
| c. | Graduate | 22 | 1 | 2 | 19 | 38 | 2 | 4 | | | |
| d. | Above Graduate | 14 | 3 | 6 | 11 | 22 | 0 | 0 | | | |
| 3. | Occupation | | | | | | | | 16.61 S | 6 | 12.59 |
| a. | Skilled worker | 14 | 0 | 0 | 12 | 24 | 2 | 4 | | | |
| b. | House wife | 22 | 0 | 0 | 18 | 36 | 4 | 8 | | | |
| c. | Private job | 10 | 3 | 6 | 7 | 14 | 0 | 0 | | | |
| d. | Government job | 4 | 1 | 2 | 1 | 2 | 2 | 4 | | | |
| 4. | Type of family | | | | | | | | 1.92 N.S. | 2 | 5.99 |
| a. | Joint | 25 | 3 | 6 | 17 | 34 | 5 | 10 | | | |
| b. | Nuclear | 25 | 1 | 2 | 21 | 42 | 3 | 6 | | | |
| 5. | Income | | | | | | | | 9.01 N.S | 6 | 12.59 |
| a. | <5000 | 17 | 0 | 0 | 14 | 28 | 3 | 6 | | | |
| b. | 5000-10,000 | 16 | 1 | 2 | 13 | 69 | 2 | 4 | | | |
| c. | 10,000-15,000 | 12 | 1 | 2 | 9 | 18 | 2 | 4 | | | |
| 6. | Marital status of women | | | | | | | | 19.26 S | 4 | 9.49 |
| a. | Single | 16 | 3 | 6 | 11 | 22 | 2 | 4 | | | |
| b. | Married | 31 | 1 | 2 | 25 | 30 | 5 | 10 | | | |
| c. | Others | 3 | 0 | 0 | 0 | 0 | 3 | 6 | | | |

F=Frequency, df=Degree of freedom, S=significant, N.S.=not significant.

Table 7 shows that association of rural women knowledge scores of breast self-examination with selected demographic variables. Chi-square test result depicts the significant impact of education, occupation and marital status on the knowledge score of urban women knowledge scores of breast self-examination as the calculated value is more than tabulated value at 0.05 level of significance. The impact of age, family, income on knowledge of rural women found to be non-significant as the calculated value is less than tabulated value at 0.05 level of significance.

CONCLUSION

The present study was done: “A comparative study to assess the knowledge regarding Breast Self-Examination among urban and rural women in selected hospitals at Amritsar in a view to develop an information booklet.” On the basis of study following conclusion were made.

The results revealed that majority of the urban women i.e. 48% have adequate knowledge, 46% women have moderate knowledge and 8% urban women have inadequate knowledge and 76% rural women have moderate knowledge, 16% have inadequate knowledge and 8% have adequate knowledge regarding breast self-examination. It indicates that urban women have more knowledge regarding breast self-examination.

REFERENCES

- Rose, Wilson. *Anatomy and Physiology Menopausal Changes London*; 10th Edn. London: Hartcourt Publisher; 450–1p.
- Smelter S.C., Brunner and Suddarth's, *Text Book of Medical Surgical Nursing*. 11th Edn., Philadelphia: Lippincott Publication: 2008; 1712–36p.
- Shafer's., *Medical Surgical Nursing*. 7th Edn., New Delhi: BI Publications Pvt. Ltd.; 1996. 728–45p.
- Lewis H. *Medical Surgical Nursing*. 7th Edn., Missouri: Mosby Publications; 2007, 1348–50p.
- Black J.M., Howks J.H. *Medical Surgical Nursing*. 7th Edn., St. Louis: Saunder's Publications; 2005, 1092–3p.
- Luckman's. *Core Principles and Practice of Medical Surgical Nursing*. 1st Edn., Philadelphia: W.B. Saunder's Company; 1993, 1418–22p.
- Park K. *Text Book of Preventive and Social Medicine*. 17th Edn. Jabalpur: M/S Banarsidas Bhanol Publishers; 2005, 306–307p.
- Kathrena M.U., et al. Promising chain reaction in equipping women for early detection of breast cancer and breast self-examination among women., *Kerala Nursing Forum*. 2007; 2(4): 32–3p.
- World Health Organization. *Women Health: Improve Our Health-Improve the World*. WHO/FHE/95.8. Geneva, WHO, 1995.
- Haji Md., et al. Breast Self-Examination: knowledge, attitude and practice among female health care workers in Tehran, Iran, *Breast J*. 2002; 8(4): 222–5p.
- Poole B., MPA, Karen A. Gelmon, M.D., et al. British cancer screening and diagnosis in British Columbia, *Br Columbia Med J*. 2008; 50(4): 198–205p.
- Journal of National cancer Institute “Randomized Trial of self-breast exam in shangai methodology and preliminary results”. Thomas D.B Gao, DL self-Get al(1997) 89-335-365 www. Answers. Com.
- Attia Amal Kadry, Dalal Aly Mohamed Abdul Rahman, Kammel Ibrahim Layla. *Eastern Mediterranean Health J*. 1997; 3(3): 435–43p.
- Ahuja S., Chakrabarti N. To determine the level of knowledge regarding breast cancer and to increase awareness about breast cancer

- screening practices among a group of women in a tertiary care hospital in Mumbai, India, *Internet J Pub Health*. 2010.
15. Gray M.E. Factors related to practice of breast self-examination in rural women, *Cancer Nurs*. 1990; 13(2): 100–7.
 16. Khandelwal B. An Article of Breast Cancer “Agra to be made breast cancer- free zone” India. *Thaindian News*. 2009.
 17. Amudha P. *Nightingale Nursing Times*. Vol. 16(2). May 2010.
 18. Khan K. An article of “Breast Cancer cases increases call for awareness grows” India, *Thaindian News*. 2009.
 19. Dhar Aarti. Punjab’s Malwa belt has high incidence of breast cancer; 2009 URI://www. Hindu. Com/ 2010/09/28/stories.
 20. Thorat V. Self-awareness in breast cancer, *Nurs J India*. 1998; 89(12): 273–4p.
 21. Singh K.K. “Awareness regarding Breast Self-Examination in school teacher effect of Health education Programme”, *Indian J Nurs Midwifery*. 2003; 6: 52–7p.
 22. Jebbin N.J. Attitudes to knowledge and practice of Breast Self-Examination in port Harcourt, *Niger J Med*. 2004; 13(2): 166–70p.
 23. Tellez el al. Knowledge and beliefs about breast cancer in rural women and indigenous population of southern Mexico, *J Clin Oncol*. 2009; 27: 15p.
 24. Fung S.Y. Factors associated with Breast Self-Examination behavior among health workers in Hong Kong, *Patient Educ Counsel*. 2003; 33(3): 233p.
 25. Alam A.A. Knowledge of breast cancer and its risk and protective factors among women in Riyadh, *Ann Saudi Med J*. 2006; 26(4): 272–7p.
 26. Marincho L.A., Sing M.M., Devi R., *et al*. Breast Self-Examination Early Detection of Breast Cancer, *Indian J Med Sci*. 2006; 53(3): 120–6p.
 27. Hagimahmoodi et al, Breast Self-Examination Early Detection of Breast Cancer, *Indian J Med Sci*. 2007; 45(4): 90–6p.
 28. www. Women. Webmd. Com/ breast self-examination.
 29. [http:// www.nhm gov/medlineplus breast cancer html](http://www.nhm.gov/medlineplus/breastcancer.html).
 30. www.pubmed.com.
 31. [http:// www.mayoclinic /health](http://www.mayoclinic/health).
 32. Kathrena M.U., *et al*. Promising Chain Reaction in equipping women for early detection of Breast Cancer and Breast Self-Examination among women, *Kerala Nursing Forum*. 2007; 2(4): 32–3p.
 33. Leszczynska K., Krajewska K., Leszczynski G. The Knowledge of preventive measures and early detection of breast cancer among students of the Medical University in Lublin *Wiad Lek, Wiadososci Lekarskie Warsaw*. 2004; 57(1): 188–91p.
 34. Larkin M. Breast Self-Examination and its importance, says task force, *Lancet*. 2001; 357: 2109–10.
 35. Karayurt O., Ozmen D., Cetinkaya A. Awareness of breast cancer risk factors and practice of breast self-examination high school students in Turkey, *BMC Public Health*. 2008; 8: 359p.
 36. Bala D.V., Gameti H. An educational interventional study of breast self-examination (BSE) in urban centre of west zone of Ahmedabad 2011; 2(2): 42–9p.
 37. Kaur, Walia. A study on the incidence of breast cancer and its risk factors in India, north in 2001; 3: 47–9p.