A Study to Assess the Knowledge regarding Breast Cancer among BSC Nursing Students in Selected Nursing Colleges of Vidarbha Region Maharashtra

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Abstract: <u>*Aim of the study*</u>*: The study aims to find out the knowledge regarding breast cancer among BSC nursing students in selected nursing colleges.* <u>*Problem statement*</u>*: A study to assess the knowledge regarding breast cancer among BSC nursing students in selected nursing colleges of Vidarbha region Maharashtra.* <u>*Primary objective*</u>*: Primary objective of study was to find out the knowledge regarding breast cancer among BSC nursing students in selected nursing colleges of Vidarbha region Maharashtra.* <u>*Secondary objective*</u>*: 1) To Assess the knowledge regarding breast cancer among BSC nursing students in selected nursing colleges of Vidarbha region Maharashtra. 2) To find out the association between the knowledge regarding breast cancer with selected demographic variables.* <u>*Method*</u>*: The research methodology adopted for the study was descriptive research approach. The investigator used quantitative non-experimental research design. The study was conducted in the selected nursing colleges. Accessible population was BSC nursing students in selected nursing colleges. 64 BSc nursing student selected with the help of convenience sampling technique as per the inclusion criteria from the selected nursing colleges. structured questionnaire was developed for assess the knowledge regarding breast cancer among BSC nursing students in selected nursing colleges.* <u>*Results*</u>*: The study revealed the 64 B.Sc. nursing students in selected nursing colleges of Vidarbha region, Maharashtra (51.5%) of them had poor knowledge whereas 20.3% had average knowledge on Breast Cancer. Further 3.1%, 9.3% of them had good & very good knowledge respectively. However, only 15.6% of the B.Sc. Nursing students had excellent knowledge.* <u>*Interpretation and conclusion*</u>*: From the finding of present study, it was concluded that the most (64) B.Sc. nursing student in selected nursing colleges of Vidarbha region, Maharashtra (51.5%) of them had poor knowledge whereas 20.3% had average knowledge on Breast Cancer. Further 3.1%, 9.3% of them had good & very good knowledge respectively. However, only 15.6% of the B.Sc. Nursing students had excellent knowledge. However, there is a no significant association between knowledge score and age, area of living, family income, family history, previous knowledge regarding breast cancer among B.Sc. nursing students. Thus, it was concluded that the B.Sc. nursing students had average knowledge on breast cancer.*

Keywords: asses, knowledge, breast cancer, breast cancer, nursing students.

1. Introduction

"An ounce of prevention is better than a pound of care "
- Tongaonkar

Indian woman suffers more due to any disease because of illiteracy, ignorance poverty, orthodox cultural behaviour and firm belief in past deeds or karma The ignorance breeds unwarranted fare regarding the disease and delays in its detection. Treatment and its prognosis.

Breast cancer is always caused by a genetic abnormality (a "mistake" in the genetic material). However, only 5-10% of cancers are due to an abnormality inherited from their mother or father. About 90% of breast cancers are due to genetic abnormalities that happen as a result of the aging process and the "wear and tear" of life in general.[1]

Invasive (Infiltrating) breast cancer: Invasive, or infiltrating, breast cancer has the potential to spread out of the original tumour site and invade other parts of your breast and body. There are several types and subtypes of invasive breast cancer.

Initially, breast cancer may not cause any symptoms. A lump may be too small for you to feel or to cause any unusual changes you can notice on your own. Often, an abnormal area turns up on a screening mammogram (x-ray of the breast), which leads to further testing. In some cases, however, the first sign of breast cancer is a new lump or mass in the breast that you or your doctor can feel. A lump that is painless, hard, and has uneven edges is more likely to be cancer. However, sometimes cancers can be tender, soft, and rounded.[2]

Need for the study:

Today, cancer is the one of the leading causes of mortality or morbidity in the developed and developing countries. In females breast cancer is the one of the most common forms of cancer. There were 19.3 million breast cancer cases diagnosed worldwide 1,62,468 million women died due to breast cancer is 9.9 million It is estimated that in India there are approximately 2-2.5 million cases of cancer at any given time with around 70,000 new cases being detected each year Investing in research produces real results.[8]

From exploring ways to prevent the disease to learning why some families are more susceptible, we know more about breast cancer today than ever before. Research is improving care, producing better outcomes, and transforming lives—every day.[9]
It's Advancing Our Understanding

Our research has impacted millions of women and men worldwide. With your help, we have raised a billion dollars to accelerate advances and transform how we tackle breast cancer today. Explore some of the progress you've made

possible.[9]
It's Saving Lives, Improving Outcomes

Research isn't confined to a lab. These stories from doctors, patients, friends, and loved ones affected by breast cancer inspire us to continue looking for answers.[10] In the absence of an exact etiological agent of breast cancer, the most appropriate way of controlling it is by early detection and treatment. mammography is the method of choice, but it is use in limited due to the high cost and unavailability considering this, breast self-examination is an ideal method which can be performed by every woman at her leisure time."[11]

If the all groups of women are targeted with accurate information and encouragement, they will learn to examine themselves and detect changes in earl' and their later life. Many women are feeling that doing a breast self-examination is an important part of their health care. It helps them to learn how their breast normally feels. So that if they find a lump, they will know her something to discuss with their health provider.[12]

2. Review of Literature

Review of literature was carried out on recent and ongoing research relevant to the present study.

Written literature reviews are the critical summaries of what is known about a particular topic. The review serves as an integrative function and facilitates the accumulation of knowledge. Hence review of literature is important to a research in order to know what has been established and documented.[21]

It helps in the formulation of a specific problem, acquaints the investigator with what is already known in relation to the problem under review and provides a basis for assessing the feasibility of conducting research.

In the present study, the review of literature is organized under the following headings: -
1) Review of literature related to incidence and prevalence of the breast cancer.
2) Review of literature on risk factor of breast cancer
3) Review of literature on knowledge among the nursing students regarding breast cancer.

Assumptions:
Most of the BSC nursing students will have inadequate knowledge regarding breast cancer.

3. Methodology

Research approach: Quantitative research approach was used for the study

Research design: non- experimental descriptive research design.

Variables under study:
Attributed variables: An attribute variable could be a variable that is a fixed attribute. These variables cannot be changed or manipulated by the researcher as they are an inherent part of a person or object. In this study, attributed variables refer to age, education, type of family, monthly income of family, religion, source of information.

Accessible population- In this study, comprises of BSc nursing student with the age group 18-21 years undergoing in selected nursing college of Vidarbha region Maharashtra.

Sample and sampling technique
Sample: BSc nursing student in selected nursing colleges.
Sample size: In present study sample size of 64 BSc nursing student.
Sampling technique: The sampling technique used in this study was convenience sampling.

Inclusion criteria
1) Assess knowledge regarding breast cancer among BSc nursing student.
2) BSc nursing between the age group of 18-21years.
3) BSc nursing student who can read and write English and Marathi.

Exclusion criteria
1) Student who is not willing to participate in this study,

Tool Preparation

Development of tool:
Research instruments or research tools are the devices used to collect data. The tools facilitate the observation and measurement of variables.

Description of Tools:
The tools have two parts

Tool 1: Socio- demographic profile- It consisted of 6 items, which includes with age, religion, educational status, type of family, family's monthly income, source of health information.

Tool 2: Structured questionnaire- To assess the knowledge regarding breast cancer among BSc nursing student. It consisted of 25 structured questions regarding breast cancer.

Tool Validity
Validity refers to which an instrument what it is intended to measure. Content validity is the extent to which the method of measurement includes all the major elements relevant to the concept being measured. The Demographic Performa statement of problem, objectives, hypothesis and operational definitions and criteria check list for validation of the tool were submitted to 6 experts to establish to content validity. The experts were requested to give their opinion regarding relevancy, appropriateness and usefulness of the items of the tool. Tool was collected from all the experts and modification was made as per the suggestion.

Tool Reliability
Reliability of the tool was established by the use of 4 samples by means of split half method. Reliability of back inventory was established by CRONBACH"s ALPHA reliability co efficient which was 0.76.

Pilot Study

The pilot study was conducted in 01th September 2023 to 03th September the permission has been taken from the principal of selected BSc nursing college of Vidarbha region Maharashtra. The tool was administered to BSc nursing student after obtaining their consent. At the end of the study respondents for their cooperation. The research design and the tools were found to be appropriate, clear and feasible. A pilot study has been conducted among BSc nursing student selected nursing college of Vidarbha region Maharashtra.

Plan for Data Analysis

Data collection process is the gathering of information to address are search problem. To conduct study in nursing colleges, formal written permission was obtained from the principal of college. Data was collected from 06 September 2023 to 11 September 2023. The investigator before collecting the data explained to fill the structure questionnaire.

4. Results

Section I: Distribution of B.Sc. Nursing students according to their demographic variables

4.1.1 Percentage distribution of B.Sc. Nursing students according to their Age in years.
4.1.2 Percentage distribution of B.Sc. Nursing students according to their Area of living.
4.1.3 Percentage distribution of B.Sc. Nursing students according to their family income.
4.1.4 Percentage distribution of B.Sc. Nursing students according to their family history of breast cancer.
4.1.5 Percentage distribution of B.Sc. Nursing students according to their previous knowledge on breast cancer.
4.1.6 Percentage distribution of B.Sc. Nursing students according to their Source of health Information.

Section II: Assessment of knowledge on Breast Cancer among B.Sc. Nursing students.

4.2.1 Percentage distribution of knowledge on Breast Cancer among B.Sc. Nursing students.
4.2.2 Mean & SD of knowledge on Breast Cancer among B.Sc. Nursing students.

Section III: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and demographic variables.

4.3.1 Association of knowledge scores on Breast Cancer among B.Sc. Nursing students with their Age in years.
4.3.2 Association of knowledge scores on Breast Cancer among B.Sc. Nursing students with their area of living.
4.3.3 Association of knowledge scores on Breast Cancer among B.Sc. Nursing students with their family income.
4.3.4 Association of knowledge scores on Breast Cancer among B.Sc. Nursing students with their family history of breast cancer.
4.3.5 Association of knowledge scores on Breast Cancer among B.Sc. Nursing students with their previous knowledge on breast cancer.
4.3.6 Association of knowledge scores on Breast Cancer among B.Sc. Nursing students with their source of health information.
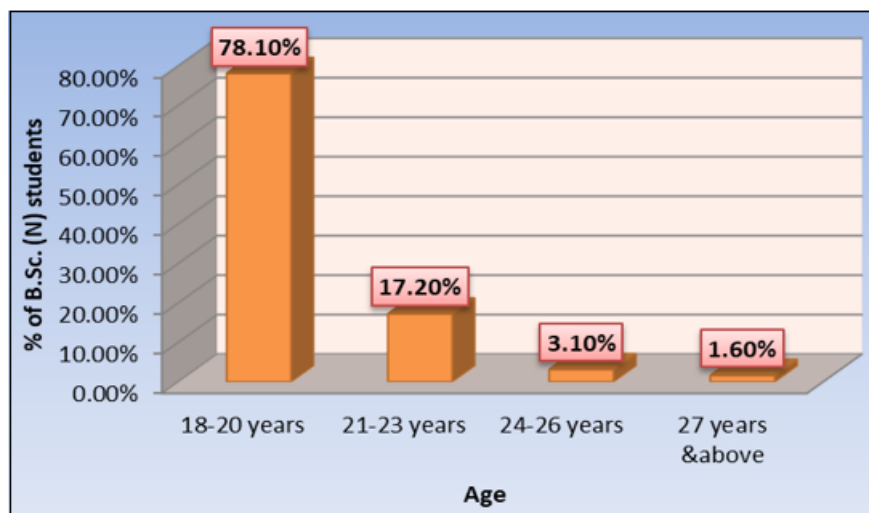

Figure 4.1.1: Percentage distribution of B.Sc. Nursing students according to their Age in years
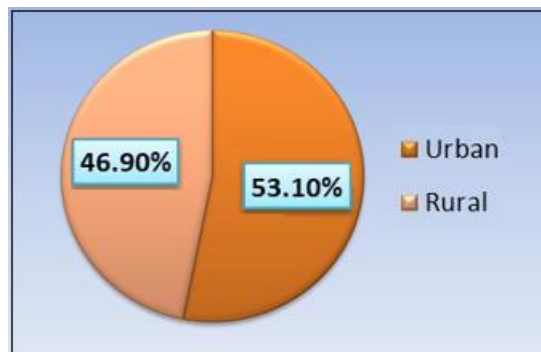
Figure 4.1.2: Percentage distribution of B.Sc. Nursing students according to their area of living

Section– I: Distribution of B.Sc. Nursing students according to their demographic variables

Figure-4.1.1: Percentage distribution of B.Sc. Nursing students according to their Age in years

Percentage distribution shows the highest percentage (78.1%) of B.Sc. Nursing students were in the age group of 18-20 years whereas 17.2% of B.Sc. Nursing students belonged to 21-23 years. Further, 3.1% of B.Sc. Nursing students were aged between 24-26years. However, only 1.6% of B.Sc. Nursing students were aged between 27years and above. (Figure 4.1.1).

Hence it was interpreted that the B.Sc. Nursing students were almost similarly distributed with regard to their age.

Figure-4.1.2: Percentage distribution of B.Sc. Nursing students according to their area of living

Percentage distribution shows the highest percentage (53.1%) of B.Sc. Nursing students were belonged to urban area whereas 46.9% of them belonged to rural area. (Figure 4.1.2).

Hence it was interpreted that the B.Sc. Nursing students were almost similarly distributed with regard to their area of residence. (Figure 4.1.2).
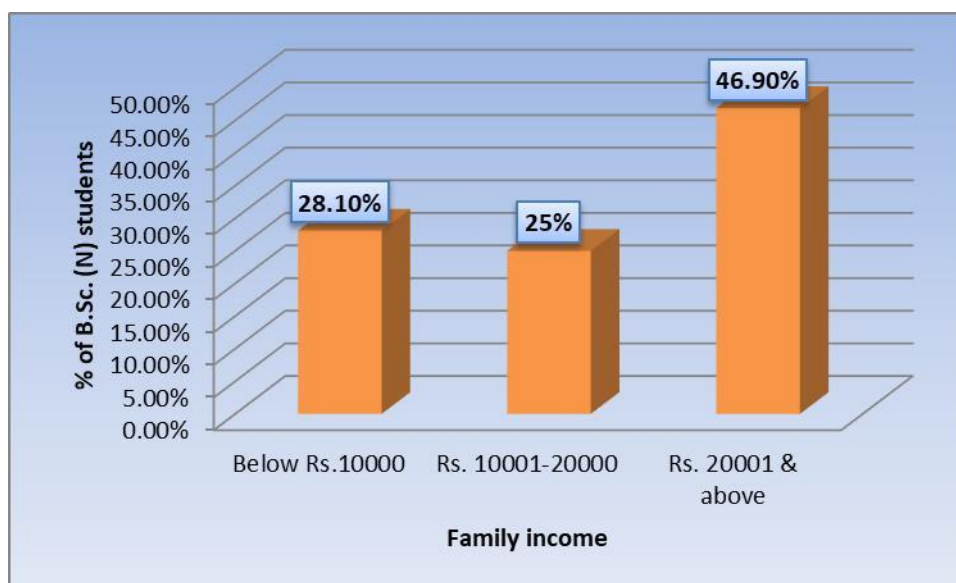

Figure 4.1.3: Percentage distribution of B.Sc. Nursing students according to their family income
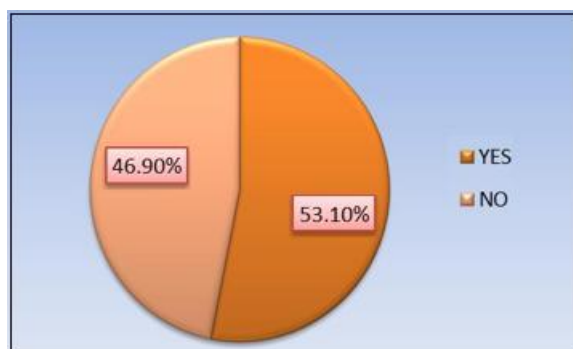

Figure 4.1.4: Percentage distribution of B.Sc. Nursing students according to Family history of breast cancer.

Figure 4.1.3: Percentage distribution of B.Sc. Nursing students according to their family income

Percentage distribution of B.Sc. Nursing students according to Monthly family income revealed that the highest percentage (46.9%) of B.Sc. Nursing students were belonged to the category Rs. 20001/- and above, whereas 28.1% of B.Sc. Nursing students belonged to category of monthly income below Rs.10000/-. However, 25% of B.Sc. Nursing students belonged to monthly family income Rs. 10001 – Rs. 20000/- (Figure 4.1.3).

Hence, it was interpreted that majority of B.Sc. Nursing students were from poor economic background.

Figure4.1.4: Percentage distribution of B.Sc. Nursing students according to their Family history of breast cancer

Percentage distribution shows the highest percentage (53.1%) of B.Sc. Nursing students had Family history of breast cancer whereas 46.9% of them had no such history. (Figure 4.1.4).

Hence it was interpreted that around 50% of the students are having a background of breast cancer. (Figure 4.1.4).
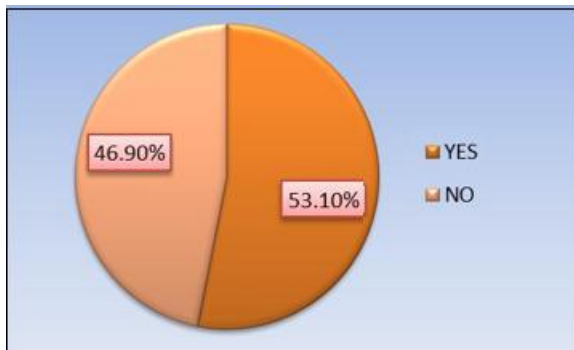

Figure 4.1.5: Percentage distribution of B.Sc. Nursing students according to previous knowledge on breast cancer
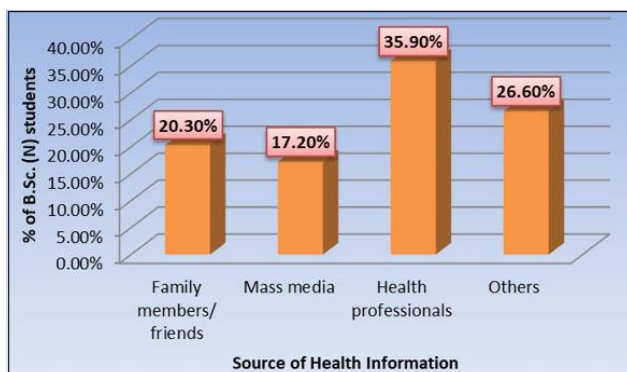

Figure 4.1.6: Percentage distribution of B.Sc. Nursing students according to source of health information.

Figure4.1.5: Percentage distribution of B.Sc. Nursing students according to their previous knowledge on breast cancer

Percentage distribution shows the highest percentage (53.1%) of B.Sc. Nursing students had some previous knowledge of breast cancer whereas 46.9% of them had no such significant information. (Figure 4.1.5).

Hence it was interpreted that around 50% of the students are having some previous knowledge of breast cancer. (Figure 4.1.5).

Figure4.1.5: Percentage distribution of B.Sc. Nursing students according to their source of health information.

Percentage distribution of B.Sc. Nursing students according to their Source of Information depicts that the higher percentage (35.9%) of B.Sc. Nursing students had obtained information regarding Breast cancer from Health professionals. Further, 20.3% of them had their source of information as family members. 17.2% of students obtained information regarding breast cancer from mass media.

However, 20.6% of students gathered information regarding breast cancer from other sources. (figure 4.1.6).

Hence, it was interpreted that majority of students gained information regarding Breast cancer from health professionals.

Section II: *Assessment of knowledge on Breast Cancer among B.Sc. Nursing students*

Table 4.2.1: Percentage distribution of knowledge on Breast Cancer among B.Sc. Nursing students, n =64

Level of Knowledge	f	%
Poor	33	51.5%
Average	13	20.3%
Good	2	3.1%
Very good	6	9.3%
Excellent	10	15.6%
Overall	64	100%

Percentage distribution of B. Sc. (N) students according to their level of knowledge shows that out of 64 B.Sc. Nursing students, majority (51.5%) of them had poor knowledge whereas 20.3% had average knowledge on Breast Cancer. Further 3.1%, 9.3% of them had good & very good knowledge respectively. However, only 15.6% of the B.Sc. Nursing students had excellent knowledge. (Table 4.2.1).

Hence, it was interpreted that majority of B.Sc. Nursing students had only poor and average knowledge on Breast Cancer.

Section II: *Assessment of knowledge on Breast Cancer among B.Sc. Nursing students*

Table 4.2.2: Mean & SD of awareness on Breast Cancer among B.Sc. Nursing students, *n*=64

Level of knowledge	f	Mean ± SD
Poor	33	2.4±1.2
Average	13	7.7±1.5
Good	2	12±0
Very good	6	18.1±1.4
Excellent	10	22.9±1.1
Overall	64	8.5±7.8

Distribution of mean knowledge scores on Breast Cancer among B.Sc. Nursing students shows that the 33 B.Sc. Nursing students had poor knowledge with a mean score of 2.4±1.2 whereas 13 of them had average knowledge on Breast Cancer with a mean score of 7.7±1.5. Further, 2 students with good knowledge had an average knowledge of 12. However, 6 B.Sc. Nursing students had very good knowledge with a mean score of 18.1±1.4 and only 10 B.Sc. Nursing students had excellent knowledge with a mean score of 22.9±1.1 (Table 4.2.2).

Hence, it was interpreted that majority of B.Sc. Nursing students had only poor and average knowledge on Breast Cancer.

Section III: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and demographic variables.

Testing of hypothesis

H1: There is a significant association between the knowledge scores on Breast Cancer among B.Sc. Nursing students and Age in years.

Table 4.3.1: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and Age in years, *n=64*

Age	Level of Knowledge					χ2 value	P Value
	Poor	Average	Good	Very good	Excellent		
18-20 years	26	9	2	4	9	8.392	0.7537 NS; p > .05
21-23 years	6	3	0	2	0		
24-26 years	0	1	0	0	1		
27 years &above	1	0	0	0	0		

df;12
p value > 0.05
NS- Non-Significant

Chi- square test was used to find out the association between the knowledge scores of B. Sc. Nursing students and their age. The finding of Chi-test value shows that there is no significant association (p>0.05) between knowledge scores and their age.

Hence, it was interpreted that the knowledge of B. Sc. Nursing students regarding Breast Cancer was not significantly associated with their age. Therefore, there research hypothesis; H1: There is a significant association between the knowledge scores on Breast Cancer and age of B. Sc. Nursing students was rejected.

Section III: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and demographic variables.

Testing of hypothesis

H2: There is a significant association between the knowledge scores on Breast Cancer among B.Sc. Nursing students and area of living.

Table 4.3.2: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and area of living, *n=64*

Area of living	Level of Knowledge					χ2 value	P Value
	Poor	Average	Good	Very Good	Excellent		
Urban	0	6	1	3	4	8.826	0.0655 NS; p > .05
Rural	13	7	1	3	6		

df; 4
p value>0.05
NS- Non Significant

Chi- square test was used to find out the association between the knowledge scores of B. Sc. Nursing students and their area of living. The finding of Chi-test value shows that there is no significant association (p>0.05) between knowledge scores and their area of living.

Hence, it was interpreted that the knowledge of B. Sc. Nursing students regarding Breast Cancer was not significantly associated with their area of living. Therefore, there research hypothesis; H2: There is a significant association between the knowledge scores on Breast Cancer and area of living of B. Sc. Nursing students was rejected.

Section III: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and demographic variables.

Testing of hypothesis

H3: There is a significant association between the knowledge scores on Breast Cancer among B.Sc. Nursing students and family income.

Table 4.3.3: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and family income, *n=64*

Family income	Level of Knowledge					χ2 value	P Value
	Poor	Average	Good	Very Good	Excellent		
Rs. 10000 & below	8	4	1	3	2	5.936	0.6544 NS; p>.05
Rs. 10001- 20000	8	3	1	0	4		
Rs. 20001 & above	17	6	0	3	4		

df;8
p value>0.05
NS- Non Significant

Chi- square test was used to find out the association between the knowledge scores of B. Sc. Nursing students and their family income. The finding of Chi-test value shows that there is no significant association (p>0.05) between knowledge scores and their family income.

Hence, it was interpreted that the knowledge of B. Sc. Nursing students regarding Breast Cancer was not significantly associated with their family income. Therefore, there research hypothesis; H3: There is a significant association between the knowledge scores on Breast Cancer and family income of B. Sc. Nursing students was rejected.

Section III: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and demographic variables.

Testing of hypothesis
H4: There is a significant association between the knowledge scores on Breast Cancer among B.Sc. Nursing students and family history of breast cancer.

Table 4.3.4: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and family history of breast cancer, *n=64*

Family history of breast cancer	Level of Knowledge					χ2 value	P Value
	Poor	Average	Good	Very Good	Excellent		
YES	20	6	1	3	4	1.718	0.7874
NO	13	7	1	3	6		NS; p > .05

df;4
p value>0.05
NS- Non- Significant

Chi- square test was used to find out the association between the knowledge scores of B. Sc. Nursing students and their family history of breast cancer. The finding of Chi-test value shows that there is no significant association (p>0.05) between knowledge scores and their family history of breast cancer.

Hence, it was interpreted that the knowledge of B. Sc. Nursing students regarding Breast Cancer was not significantly associated with their family history of breast cancer. Therefore, there research hypothesis; H4: There is a significant association between the knowledge scores on

Breast Cancer and family history of breast cancer of B. Sc. Nursing students was rejected.

Section III: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and demographic variables.

Testing of Hypothesis
H5: There is a significant association between the knowledge scores on Breast Cancer among B.Sc. Nursing students and Previous knowledge on breast cancer.

Table 4.3.5: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and previous knowledge on breast cancer.

Family history of breast cancer	Level of Knowledge					χ2 value	P Value
	Poor	Average	Good	Very Good	Excellent		
YES	20	6	1	3	4	1.718	0.7874
NO	13	7	1	3	6		NS; p > .05

df;4
p value>0.05
S- Significant

Chi- square test was used to find out the association between the knowledge scores of B. Sc. Nursing students and their previous knowledge on breast cancer. The finding of Chi-test value shows that there is no significant association (p>0.05) between knowledge scores and their Previous knowledge on breast cancer.

Hence, it was interpreted that the knowledge of B. Sc. Nursing students regarding Breast Cancer was not significantly associated with their previous knowledge on breast cancer. Therefore, there research hypothesis; H5: There is a significant association between the knowledge

scores on Breast Cancer and Previous knowledge on breast cancer of B. Sc. Nursing students was rejected.

Section III: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and demographic variables.

Testing of hypothesis
H6: There is a significant association between the knowledge scores on Breast Cancer among B.Sc. Nursing students and source of health information.

Table 4.3.6: Association of knowledge scores on Breast Cancer among B.Sc. Nursing students and source of health information, n=64

family history of breast cancer	Level of Knowledge					χ2 value	P Value
	Poor	Average	Good	Very good	Excellent		
Family Members	7	3	0	1	2	6.518	0.8877 NS; p >.05
Mass Media	5	3	1	0	2		
Health Professionals	13	5	0	2	3		
Others	8	2	1	3	3		

df;12
p value>0.05
NS- Non Significant

Chi- square test was used to find out the association between the knowledge scores of B. Sc. Nursing students and their source of health information. The finding of Chi-test value shows that there is no significant association (p>0.05) between knowledge scores and their source of health information.

Hence, it was interpreted that the knowledge of B. Sc. Nursing students regarding Breast Cancer was not significantly associated with their source of health information. Therefore, there research hypothesis; H6: There is a significant association between the knowledge score on Breast Cancer and source of health information of B. Sc. Nursing students was rejected.

Conclusion

From the finding of present study, it was concluded that the most (64) B.Sc. nursing student in selected nursing colleges of Vidarbha region, Maharashtra (51.5%) of them had poor knowledge whereas 20.3% had average knowledge on Breast Cancer. Further 3.1%, 9.3% of them had good & very good knowledge respectively. However, only 15.6% of the B.Sc. Nursing students had excellent knowledge.

However, there is a no significant association between knowledge score and age, area of living, family income, family history, previous knowledge regarding breast cancer among B.Sc. nursing students

Thus, it was concluded that the B.Sc. nursing students had average knowledge on breast cancer.

Recommendations

On the basis of the findings of the study, it is recommended that the following studies can be conducted.
- Study can be conducted on a larger population for generalization of findings.
- Study can be conducted in adults in community.
- Interventional study can be conducted to improve the knowledge of students.

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