RESEARCH ARTICLE

KNOWLEDGE OF NURSES ABOUT BREAST CANCER RISK FACTORS, GENERAL AWARENESS AND SCREENING PROCEDURES IN SOUTH INDIA

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ABSTRACT

Background: General awareness and knowledge about risk factors for breast cancer, and screening procedures, is low among the general population and even among many health workers in India.

Aims & Objectives: To assess the level of knowledge of nurses about breast cancer risk factors, and screening procedures including breast self-examination.

Materials and Methods: 342 nurses were given a pre-designed questionnaire to obtain information, regarding their general awareness about the disease, and to know the level of knowledge about risk factors and screening procedures regarding breast cancer. Percentages were used to study the results.

Results: Knowledge about risk factors like smoking (36.84%), fatty food (33.33%) and obesity (28.94%) among nurses was poor.

Conclusion: Steps may be taken to make necessary changes in the nursing curriculum to increase general awareness, and enhance knowledge about risk factors for breast cancer and BSE procedures – so that the nurses can play a major role in early detection and prevention of the disease among women in the community.

Key Words: Nurses Knowledge, Breast Cancer, Risk Factors, Screening Methods, Breast Self-Examination (BSE)

Introduction

Breast cancer is one of the common cancers among women in the world and is a leading cause of morbidity and mortality among women.[1-3] The incidence of breast cancer is rising even in developing countries like India. Reports from different cancer registries in India show rising trends in breast cancer incidence.[4] Differences in known risk factors, availability of screening programs, and access to effective and affordable treatment modalities, are responsible for global variations in incidence and mortality due to the disease.[1] Fatality rates are found to be higher in low resource countries.[5] Early diagnosis is the key for effective treatment and prevention of the disease. Many cases in India are detected in the late stages, where treatment becomes a challenge, associated with uncertainty of cure of the disease. Knowledge about screening practices are less among the population, and procedures like breast self-examination (BSE) are unknown to many. In such a scenario, health workers like nurses could make a positive impact in the field of breast cancer diagnosis. Nurses are health professionals, who are involved in direct patient care. They take part in patient assessment, patient education, and management of symptoms, and also give supportive care. They can assess the patients' physical and emotional status. In India, they make door to door visits particularly for immunization and family planning programs, and could well utilize this visit to even teach them about BSE. As they interact with the patients family members, they have a better opportunity to develop a rapport with the patient and their relatives, and impart some knowledge about the disease. The nurses constitute an important source of information within their social network, and can possibly serve as a first line of communication between the patient and the doctor. Teaching nurses about early detection methods, and their related benefits, could help in improving their skills, and expand their role as educators in the society.[6]

Unfortunately, lack of motivation in general, among the population as well as among the health workers, to perform clinical breast examination (CBE) and BSE, exist in the society which poses a hindrance for early diagnosis and treatment. To achieve this, the nurses themselves need to understand the importance of procedures like BSE and other related investigations.

The aim of the present study is to assess the level of knowledge among nurses regarding general awareness and risk factors for breast cancer, and method of examination of the breast to look for any changes. The motivation to take up this study was that very few studies were done in India in this field.

Materials and Methods

A total of 342 nurses were enrolled in the study, out of which, 246 nurses were from a Medical College Hospital, and 96 from a General hospital, working in different departments. 309 (90.3%) were GNMs (General Nursing & Maternity) and 33 (9.6%) had done BSc Nursing. All nurses were given a pre-designed questionnaire, which was divided into 3 sections. The first section consisted of questions to assess the knowledge about general awareness and screening tests (Breast self-examination, ultrasound and mammography). The second section with 6 questions was related to risk factors and the third section had 2 questions to assess knowledge of procedure of performing BSE. An informed consent was taken from all the study participants, and the Institute Ethics Committee permission was obtained. Percentages were calculated for individual responses.

Results

The 3 sections of the questionnaire were analyzed and results were tabulated and expressed as percentages. Scores were given to individual parameters according to their correct response. Each of the 15 parameters was allotted a score of 1 for each correct response, giving a total score of 15 [Table 1].

Scores for individual questions were categorized under Good (>80%), Fair (60-80%), Poor (50-60%) and Very poor (<50%). The responses of 14.03% of nurses were in the 'Good' category, and 49.12% of nurses fell in the 'fair' category. 23.68% gave 'poor' response, and 13.15% gave 'very poor' response. This shows that though > 60% had reasonably good and fair knowledge about the disease, around 40% of the participants still had poor and very poor knowledge about the disease parameters [Table 2].

81.57% were aware that breast cancer is a life threatening disease, and 99.12% knew that early detection can improve prognosis. 84.12% had heard about availability of screening tests. 87.71% knew about BSE, only 39.47% nurses knew that Ultrasound could be used as a screening tool. However, 94.73% of nurses knew that Mammography is a good screening tool [Table 3].

Regarding risk factors, 67.54% of nurses knew that oral contraceptive pills can cause breast cancer, and around 30% knew that smoking, fatty diet and obesity are also risk factors. Many nurses (58.77%) think that direct sun exposure can lead to breast cancer, and 35.08% feel that pain in the breast indicates breast cancer [Table 4].

Table-1: Correct response & Scores allotted to them

Knowledge about Breast Cancer	Correct Response	Score
Life threatening disease	Y	1
Can it be treated if detected early	Y	1
Heard about screening tests	Y	1
BSE	Y	1
Ultrasound	Y	1
Mammography	Y	1
Risk factors		
Oral contraceptive pills (OCP)	Y	1
Smoking	Y	1
Direct sun exposure	N	1
Pain in breast	N	1
Fatty diet	Y	1
Obesity	Y	1
Procedure for BSE / other methods		
Standing in front of mirror	Y	1
Lying down	Y	1
In front of Mirror with hands on thigh	Y	1
Total score		**15**

Table-2: Grading of scores obtained by study participants

Grading	Total Score	Participants (n=342)	% of participants with correct response
Good (>80%)	12 & > 12	48	14.03
Fair (60-80%)	9 - 11	168	49.12
Poor (50-60%)	7-8	81	23.68
Very poor (<50%)	< 7	45	13.15

Table-3: Knowledge about general awareness & screening tests (n=342)

Knowledge	Correct Responses	
	N	%
Life threatening disease	279	81.57
Can early detection improve prognosis	339	99.12
Heard about screening tests	288	84.12
BSE	300	87.71
Ultrasound	135	39.47
Mammography	324	94.73

Table-4: Knowledge about risk factors (n=342)

Knowledge	Correct Responses	
	N	%
Oral contraceptive pills (OCP)	231	67.54
Smoking	126	36.84
Direct sun exposure	201	58.77
Pain in breast	120	35.08
Fatty diet	114	33.33
Obesity	99	28.94

Table-5: Knowledge about procedure of performing BSE (n=342)

Knowledge	Correct Responses	
	N	%
Standing in front of mirror (seeing and palpating breast)	294	85.96
Lying down & palpating breast	189	55.26

85.96% of the nurses were aware that BSE is done while standing in front of mirror and palpating the breast, whereas 55.26 % knew that BSE can be done even in lying down posture and palpating the breast [Table 5].

Only 26.32% knew that any lump, if present in the breast, can be made prominent by standing in front of mirror and pressing hands onto the thighs. The participants were also asked in the questionnaire about

their willingness to undergo necessary training to increase their knowledge about the disease, for which, majority of them responded positively.

Discussion

Breast cancer is a progressive malignant disease, and can spread easily to other areas. Detection of small tumors, which are more likely to be in the early stage of the disease, would improve prognosis. General awareness among nurses about breast cancer, associated risk factors, and procedure to identify any abnormality in the breasts by self-examination (BSE), are important, as they can identify the high risk women, and guide them appropriately.

In the present study, as shown in table 1, the maximum score that could be obtained by any participant was '15'. 49.12% of the participants had fair knowledge, and 13.15% had very poor knowledge about all the parameters pertaining to breast cancer.

Although a good number of nurses (81.57%) knew that breast cancer is a life threatening disease, and 99.12% knew that early detection can improve prognosis, very few (39.47%) knew that ultrasound can act as a screening tool to detect presence of lump in the breast. Awareness about usage of ultrasound equipment as a screening tool for breast cancer would be useful, as in recent times, it is widely available even in smaller towns, is comparatively less expensive, is non – invasive, and is less time consuming in detecting a breast lump. This low level of knowledge, about the usefulness of ultrasonography as a screening tool among nurses, may be because of the impression, that ultrasound is used to visualize only the abdominal organs and their abnormalities. However, they were well informed about other specific procedures for screening like mammography (94.73%) and BSE (87.71%) which is evident from the study.

Knowledge, about risk factors of breast cancer among nurses in the study participants, is poor, as is the case in other developing countries.[7,8] Majority of nurses (67.54%) in the present study knew, that oral contraceptive pills are one of the major risk factors for carcinoma breast.[8] The reason for the above may be, that many times nurses are involved in family planning programs, where they distribute OCPs and have knowledge about their side effects, especially with prolonged use, and inform the women about it. Hence they were already aware about the risk factor aspect of OCPs. However, knowledge about established risk factors like smoking (36.84%) among women, intake of fatty diet (33.33%), and obesity (28.94%), was very poor in contrast to the study done earlier.[9] The reason for poor knowledge in the present study may be due to the general belief, even among nurses, that smoking is associated with lung cancer only, while fatty diet and obesity is associated with heart diseases only.

It is also seen from the study that 58.77% think that direct sun exposure can cause breast cancer, though no such relation is observed. 35.08% feel that pain in the breast is an early sign of the disease, which is in accordance with a previous study.[10] 85.96% of nurses knew that BSE is performed while standing in front of a mirror and feeling for any breast mass, while visualizing the external appearance of the breast and also compare both the breasts.

A moderate percentage (55.26%) of nurses had given the correct response that BSE of the breast can be done even in lying down posture. Simple procedure to make the breast lump, if any, prominent – by standing in front of a mirror with hands on thighs – was known only to 26.32% of the nurses, which is very poor.

BSE is a simple and cost free method, involving regular monthly systemic examination of the breasts and axillary area, both by inspection and by palpation to look for any signs of abnormality. If women can be motivated and taught to perform BSE regularly, it would enable them to familiarize with the structure of their own breast, and can immediately recognize any deviation from the normal structure by feeling and looking at it. Indian population, particularly women, in many areas have inhibition to get a clinical breast examination (CBE) done by health care professionals, due to social and cultural beliefs, and they themselves do not perform BSE, due to lack of awareness and knowledge of the procedure. In India, affordability for a routine mammography screening is low. Hence, adopting a routine and regular breast self-examination (BSE) appears to be more realistic and affordable method of screening for breast cancer.

The lack of knowledge may be due to insufficient emphasis on screening methods and primary prevention in nursing curriculum, along with inadequate education regarding breast cancer risk factors.

Conclusion

Based on the results of the study, steps may be taken to make necessary changes in the nursing curriculum to increase general awareness and enhance knowledge about risk factors for breast cancer and BSE procedures – so that the nurses can play a major role in early detection and prevention of breast cancer among women in the community. It may be impressed upon women by health care providers, that breast cancer is a potential hazard, and if detected early, can be completely curable. It would also be helpful, if the nurses are given training from time to time, to update their knowledge about newly included risk factors and advanced screening procedures.

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