

Awareness regarding breast cancer and its screening amongst women attending a tertiary care hospital in Peshawar

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ABSTRACT

Introduction: Breast cancer is a major public health problem in developing countries with Pakistan having the highest incidence among Asian countries. Screening strategies are advocated as primary preventive measures and early detection of suspicious masses.

Objective: To evaluate and quantify the level of awareness regarding risk factors related to breast cancer and the screening methods available to detect it amongst women in a tertiary care hospital of Peshawar.

Materials & Methods: This survey was conducted from June 2018 to November 2018, on females above 14 years, in the wards and Out Patients Department (OPD) of Rehman Medical Institute (RMI), Peshawar. WHO Sample Size formula was used to calculate the sample size and convenience sampling technique was used for data collection via a self-constructed questionnaire translated into Pashto; women with any previous history of breast cancer were excluded. Data were analyzed by Excel and SPSS 24 for descriptive statistics.

Results: A total of 340 women participated in this study with majority (34%) between 14-30 years of age; of these 165(48.5%), 158(46.5%), and 131(38.5%) respondents respectively knew that a positive family history, oral contraceptives, and obesity increase the risk of breast cancer. However, 214(62.9%) knew that breast feeding decreases the risk; only 118(34.7%) knew having children at younger age decreases the risk. Similarly, only 91(26.8%) had heard of Breast Self-Examination (BSE), 53(15.6%) had been taught BSE, and 75(22.06%) were practicing it on either a daily, weekly, monthly or yearly basis, while 265(77.94%) did not practice it at all. Education level of respondents was significantly associated with the knowledge of risk factors for breast cancer. Only 73(21.5%) had heard of mammography. Out of them, 50(68.5%) thought that mammography was a useful tool of detection but were not sure about the age from which it should be started and how often it should be done.

Conclusion: There is a lack of awareness regarding risk factors, BSE, and especially regarding mammography and its use amongst women.

Keywords: Breast Neoplasms; Breast Feeding; Mammography; Breast Self-Examination; Mass Screening.

The authors declared no conflict of interest. All authors contributed substantially to the planning of research, data collection, data analysis, and write-up of the article, and agreed to be accountable for all aspects of the work.

INTRODUCTION

Over one million breast cancer cases are diagnosed annually on the global level,¹ leading to 411,000 deaths from it; this amounts to 14% female deaths due to cancer worldwide.² In developing countries, breast cancer is a major public health problem and the second leading cause of death.³ Among Asian countries, Pakistan has the highest incidence rate of breast cancer,⁴ with a prevalence of 19.3% in 2015 and an estimated death toll of 40,000 in 2017.

Breast cancer has multiple risk factors, with increasing age being a major contributor. A positive personal and family history are significantly associated with developing breast cancer. Other proven risk factors include early menarche, late menopause, post-menopausal obesity, hormonal treatments, nulliparity and/or having the first child after the age of 30 years.^{5,6} The literature also notes that compared to western women, Pakistani women develop more aggressive disease with metastases at a younger age.⁷

In contrast to developed countries where the diagnosis of breast cancer is standardized since 1980s, developing countries have no such initiative; consequently, breast cancer incidence and mortality remain high and on the rise, predicted to become worse with the passage of time.⁴ Lack of definite primary prevention necessitates early detection followed by prompt and adequate treatment to decrease mortality from the disease.⁸ Successful treatment is determined primarily by the stage at diagnosis, and secondary prevention is the mainstay of therapy.

A screening strategy for early diagnosis proves beneficial in that it prevents disease progression by finding and removing premalignant precursors at an early, curable stage, thereby preventing the development of full blown invasive cancer.⁹ The World Health Organization (WHO) recommends regular breast screening for women through an imaging test known as mammography, that can lead to reduction in mortality by 30%. Screening mammography uses low-dose x-rays to detect cancer before symptoms appear, and it is most treatable.¹⁰ Other screening methods are Breast Self-Examination (BSE) and Clinical Breast Examination (CBE).¹¹ BSE refers to regular examination of one's breasts to detect suspicious masses or conditions that may need to be reported to doctors as part of screening for breast cancer.¹²

Fortunately, BSE is well accepted in developing countries as an early diagnostic tool, being simple, inexpensive, non-invasive, non-hazardous, and an easily approachable method; additionally, it encourages women to take an active part in their personal preventive health. It has been shown that BSE is a most significant, individual preventive health strategy practiced regularly by women.⁸ However, breast cancer screening practices are seriously hampered by lack of awareness amongst women about the common presenting symptoms or risk factors of breast cancer; measures to increase women's awareness of breast cancer lessen the barriers towards quick diagnosis and treatment.⁷ It becomes important therefore, to assess the awareness levels of the screening target population before implementing strategies to improve effectiveness of a screening program. The programs should be supported by appropriate research to investigate local beliefs, to examine the utilization of screening tools, and to identify obstacles encouraging underutilization.¹¹

This research aims to evaluate and quantify the level of awareness regarding the risk factors attributing to breast cancer and the screening methods available to detect it amongst women in a tertiary care hospital of Peshawar. Most importantly, it will help us assess the impact of availability of Breast Cancer Units (BCU) in tertiary care hospitals on the level of awareness in the women of Peshawar.

MATERIALS & METHODS

This study was conducted in the wards and OPDs of Rehman Medical Institute (RMI) and Rehman General Hospital (RGH); It is a private, tertiary care hospital possessing a bed capacity of 640. The study took 6 months to be completed, starting in June 2018 and ending in November.

Owing to the nature of the study, the research project was conducted as a cross sectional study. WHO Sample Size formula was used to calculate the sample size. Accordingly, we sampled a total of 340 patients. The technique used for this was convenient sampling.

Our inclusion criteria consisted of all women above the age of 14 years. On the other hand, all women with any previous history of being afflicted with breast cancer were excluded.

The data was collected using a self-constructed questionnaire translated into Pashto, the major language used by the locals in the area. It mainly focused on queries pertaining to the risk factors associated with breast cancer, the self-examination technique used by individuals to screen for breast changes at home (BSE) and lastly, the use of mammography as a screening tool.

An informed consent was taken from the females before they were questioned.

The data gathered was subsequently analysed for descriptive statistics. Crosstabs and frequency tables were also generated. SPSS version 24.0 and excel were used for these purposes.

RESULTS

A total of 340 women participated in this study, of whom 34% were between 14-30 years, 31% were between 31-40 years, 22% were between 41-50 years, 11% were between 51-60 years and 2% were above 60 years (Figure 1).

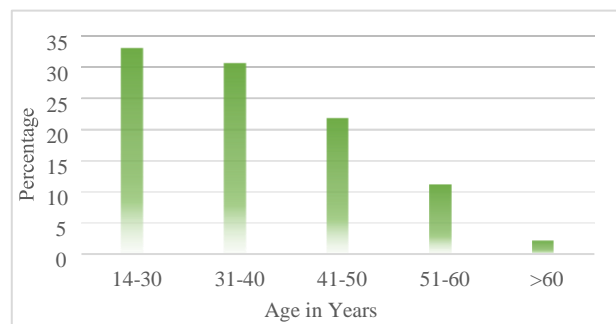


Figure 1: Distribution of age groups of subjects (n=340).

As can be seen in Figure 2, most females lacked any formal education (38%) followed by an ordinal set of education i.e. Primary (17%), Secondary (13%), Bachelors/Masters (32%).

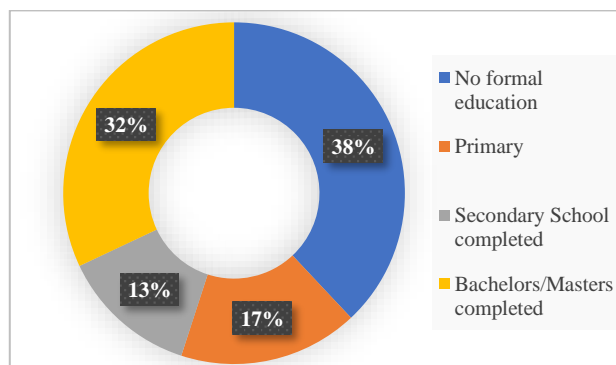


Figure 2: Level of education of subjects (n=340).

Regarding knowledge of risk factors for breast cancer, 165 (48.53%), 131 (38.53%), and 158 (46.50%) women knew that a positive family history, obesity and oral contraceptives respectively increase the risk of breast cancer; 214 (62.94%) knew that breast feeding decreases the risk. Only 118 (34.70%) knew that having children at younger age decreases the risk (Table 1).

Table 1: Knowledge of risk factors for development of breast cancer among subjects (n=340).

Questions for Knowledge of Risk Factors	Increases the Risk f (%)	Decreases the Risk f (%)	Don't Know f (%)
Do you think family history has a role in breast cancer development?	165 (48.53)	13 (03.82)	162 (47.65)
Do you think Oral Contraceptive Pills use has a role in breast cancer development?	158 (46.50)	24 (07.05)	158 (46.50)
Do you think Obesity has a role in breast cancer development?	131 (38.53)	11 (03.23)	198 (58.23)
Do you think breast feeding has a role in breast cancer development?	21 (06.17)	214 (62.94)	105 (30.88)
Do you think the practice of having children at younger age has a role in breast cancer development?	25 (07.35)	118 (34.70)	197 (57.94)

Regarding knowledge and practice of BSE shown in Table 2, only 91 women had heard of it, 53 had been taught BSE, and 72

were practicing it on either a daily, weekly, monthly or yearly basis; 265 among 340 did not practice at all.

Table 2: Knowledge and Practice of BSE among women (n=340).

Questions for Knowledge and Practice of BSE				Yes f (%)	No f (%)
Have you ever heard of breast self-examination (BSE)?				91 (26.76)	249 (73.24)
Have you been taught how to do BSE?				53 (15.59)	287 (84.41)
Do you practice BSE?				75 (22.06)	265 (77.94)
How often do you practice BSE? (n=75)	Daily f (%)	Weekly f (%)	Monthly f (%)	Yearly f (%)	
	02 (02.67)	09 (12.0)	39 (52.0)	25 (33.33)	

As for knowledge concerning mammography, 41 and 73 women out of 340 knew about screening and mammography respectively. 58 of them stated that mammography is a useful tool

while 7 had underwent it for the purpose of screening. 71 of them had considered doing it. The responses for the age and how often mammography should be done are given below.

Table 3: Knowledge and Use of Mammography among women (n=340).

Questions relating to Knowledge and Use of Mammography				Yes f (%)	No f (%)
Do you know what is screening?				41 (12.06)	299 (87.94)
Have you heard of mammography?				73 (21.47)	267 (78.53)
Have you ever done a mammography for the purpose of screening?				07 (02.06)	333 (97.94)
Would you consider doing mammography?				71 (20.88)	269 (79.12)
Is mammography a useful tool for the early detection of breast cancer? (n=73)				58 (79.45)	15 (20.55)
At what age should mammography be started?	From 20 onwards		From 30 onwards	From 40 onwards	From 50 onwards
	04		15	34	08
How often should mammography be done? (n=73)	Weekly	Monthly	Yearly	Every 3 Years	Lump on BSE/CBE
	0	3	19	5	46

Education levels of respondents appeared to influence their knowledge of risk factors for development of breast cancer, as shown in Table 4. The participants with no formal education showed a lack of knowledge of the risk factors, as did the ones

with middle level education. Women with higher education also did not know about the obesity factor and having children at younger age. However, their correct response related to the fact that breast feeding decreases the risk and OCP increases it.

Table 4: Relationship between education and knowledge of risk factors for development of breast cancer

Level of Education	Family History			Obesity			Breast Feeding			Early Pregnancy			OCP		
	↑	↓	Don't Know	↑	↓	Don't Know	↑	↓	Don't Know	↑	↓	Don't Know	↑	↓	Don't Know
No formal Education	39	02	87	26	03	99	09	44	75	09	23	96	32	03	93
Primary	31	04	24	21	03	35	05	39	15	07	25	27	25	08	26
Secondary	26	01	18	20	02	23	03	36	06	04	21	20	21	08	16
Bachelors/Masters	69	06	33	64	03	41	04	95	09	05	49	54	80	05	23

↑ Increases the risk; ↓ Decreases the risk; OCP = Oral Contraceptive Preparations

Out of 340 women, only 91 had heard of BSE. Amongst them, only 49 were taught it. The practicing women among those were only 66. It also showed that there were a few women who

practiced BSE, without having been taught it. The practicing pattern of the women was: daily 2%, weekly 8%, monthly 38%, yearly 20%.

Table 5: Positive response who have heard of BSE and relation

Heard of BSE	Taught how to do BSE	Practice BSE		How often do you practice BSE?				
		Yes	No	Daily	Weekly	Monthly	Yearly	Not at all
Yes	Yes	Yes	No	Daily	Weekly	Monthly	Yearly	Not at all
91	49	66	25	2	8	38	20	23

From the sample of 340 women, only 73 had heard of mammography. Out of them, only 50 thought that mammography is a useful tool of detection but were not sure about the age from

which it should be started and how often it should be done. Only 7 out of those 73 women had done mammography and 53 of them considered doing it.

Table 6: Responses to knowledge and practice of mammography among subjects (n=340).

Questions regarding knowledge and practice of mammography				Responses	
Have you heard of mammography?				Yes (73)	No (267)
Is mammography a useful tool for early detection of breast cancer?				Yes (50)	No (23)
At what age should be started?	20 years onwards	30 years onwards	40 years onwards	50 years onwards	
	03	13	25	06	
How often should mammography be done?	Monthly	Yearly	Every 3 Year	Lump on BSE/CBE	
	02	17	05	28	
Have you ever done a mammography for the purpose of screening?					Yes (07)
Would you consider doing a mammography?					Yes (53)

DISCUSSION

In the current era, breast cancer incidence is climbing globally. Major contributors to this trend in Pakistan are the lack of awareness in women regarding its predisposing factors and the fact that they do not have adequate knowledge of screening tools like mammography. The data this project gathered clearly depict these statements.

In a total of 340 women, 38% had received no formal education, 32% had completed either their Bachelors or Masters courses, and the rest came in between. The questionnaire used was self-constructed and assessed the awareness of women regarding various risk factors and screening practices for breast cancer. The ages of the women were 14 onwards, the majority being in the range of 14 to 30 years of age.

Regarding the protective risk factors, 63% women answered correctly showing that there is a decreased risk of breast cancer with breast feeding whereas a study in India¹² gave a figure of 50%. It was of interest that most women were aware of this inverse relation because they were informed of it by their gynecologists or obstetricians. Therefore, proper counselling on behalf of doctors seems to be one of the most convenient ways of spreading awareness. Generally, educational status seemed to play almost no role in the amount of knowledge and awareness the women had regarding this topic.

Correct identification of the protective effect of having children at younger age was done by 35% women, as compared to 7.5% in a study conducted in Jordan.¹³ As for the predisposing factors, 49% of the sample answered correctly that family history has a role in breast cancer, whereas similar studies showed 60% awareness in India,¹⁰ 48.5% in Uganda,¹⁴ and 13% in Jordan.¹³ Only 39% were able to correctly answer that obesity had a role in breast cancer and 47% were able to identify the use of Oral Contraceptive Pills (OCP) as a causative agent (compared to 54% in a study conducted in Uganda¹⁴). Overall, it was observed that more than 50% of the right answers regarding family history, OCP use and younger age of bearing children were from people who were undergraduates or postgraduates.

Furthermore, it was found that only 27% women had heard about Breast Self-Examination (BSE); this was almost similar in awareness to studies conducted in Rawalpindi (28%)¹⁵ and India (30%)⁸; 73% of our sample were completely unaware of BSE, similar to results seen in studies from Lahore (87%)³, Karachi (48.8%)¹¹ and India (69%)⁸. Amongst these, only 21% actually practiced BSE whereas the figures were 26%, 37% and 44% in recent studies conducted in Karachi,¹⁶ Lahore,³ and Uganda¹⁴ respectively.

Regarding screening, just 12% of the women were aware of what screening meant. In contrast, 22% of women were familiar with the term mammography, compared to values of 29% in a study conducted in Lahore³; 78% of the women in our study had never heard of mammography, with similar results in a study conducted in Karachi (69%)¹⁷.

CONCLUSION

There is a lack of awareness regarding risk factors, Breast Self-Examination (BSE), and especially mammography and its use amongst women attending a tertiary care hospital of Peshawar, Khyber Pakhtunkhwa, Pakistan.

RECOMMENDATION

Pre-emptive measures should be taken by the government and hospitals to spread knowledge and awareness regarding risk factors pertaining to breast cancer and all the relevant methods that can be utilized to prevent it particularly through female health workers.

LIMITATIONS

Temporal sequence of events cannot be established. Language posed a communication barrier as a few women spoke Farsi and did not understand Pashto.

GENERALIZABILITY

Results of the study can be applicable to other tertiary care hospitals of the province/country as the general characters of the patients and health care services remain the same throughout.

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