AWARENESS OF BREAST CANCER AMONG FEMALE SCHOOL TEACHERS IN SELECTED GOVERNMENT SCHOOLS IN COLOMBO DISTRICT

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Abstract

Breast cancer is the most frequently diagnosed cancer and the leading cause of cancer deaths among female worldwide. Therefore current awareness programs should be planned to reduce the risk of developing breast cancer among future young generations in Sri Lanka. Since teachers play an effective role in educating and motivating young students, they should be made knowledgeable enough to spread health related messages. There are lack of published data on awareness of breast cancer among school female teachers.

This study was done among 640 female school teachers aged 25 to 50 years in sixteen selected government schools in Colombo district, in Sri Lanka, to evaluate the awareness of breast cancer among them. The objective of the study was, to assess awareness of breast cancer among female school teachers aged 25 to 50 years in selected government schools in Colombo district. The sample was selected using multi-stage stratified cluster sampling. Data was collected using a pretested self-administered questionnaire. Data was analyzed using Statistical Package for Social Science (SPSS) Version 23.0 software.

Most of the participants (83.3%) knew a painless lump in the breast as an early warning sign. Of the total sample, 524 (81.9%) participants identified that breast cancer is the most common cancer in women. Most of the participants were aware that family history (78.6%), age (63.6%) and exposure to radiation (63.6%) are highly associated risk factors for developing breast cancer. Though there was a high percentage (86.9%), who heard the term BSE, awareness of frequency of performing BSE was poor.

Of those who were aware, 75.8% named radiotherapy, 57.8% named chemotherapy and surgery as treatment options for breast cancer. There was satisfactory knowledge on various aspects of breast cancer among the selected population, only 48.3% had good knowledge on early warning signs, only 41.4% had good knowledge on early detection measures, screening methods available and mode of spread, only 49.5% had good knowledge on management and treatment options. But the study revealed that there was a lack of very good knowledge (3.4%) regarding breast cancer risk factors among the study population. Further, outcome of analysis showed there is a significance relationship between family history and breast cancer knowledge on early warning signs (P=0.022), early detection measures, screening methods available and mode of spread (P=0.001) management and treatment methods (P=0.025) except for the risk factors and causes (P=0.104) among school teachers. More than half of the participants thought BSE as the useful screening method for early diagnosis in higher prevalence (83.0%). And also the study showed family history of breast cancer and practicing of BSE has a significant relationship (P=0.000).

The television and radio were the leading source of information (86.4%) and very low percentage (25%) received information from health care workers.

Overall, the awareness of breast cancer is satisfactory in the study population. But key element is prevention of the breast cancer since it's a prevailing condition which largely causes to death of the women Sri Lanka. Our study realized that the key element of prevention of breast cancer called BSE performance among teachers is low. Further its need to assess their knowledge on correct practices of BSE. Therefore it is needed to provide periodic intervention programmes, targeting teachers for further improvement of them Since teachers play an effective role in educating and motivating young students and the society.

Key words: Breast cancer, female school teachers, awareness, government schools

1. Introduction.

1.1 Background of the study

Breast cancer is a malignant tumor that develops from breast tissue. A malignant tumor is a group of cancer cells that can grow into (invade) surrounding tissues or spread (metastasize) to distant areas of the body. The disease occurs almost entirely in women, but men also can get it (American Cancer Society, 2015).

Breast cancer is the most frequently diagnosed cancer and the leading cause of cancer deaths among female worldwide, accounting for 23% (1.38 million) of the total new cancer cases and 12.7% (269,000) of the total cancer deaths in 2008 in both developing and developed regions (Ferlay et al, 2010). According to the estimates 1.7 million cases and 521,900 deaths are recorded in 2012 (Torre et al, 2015). Breast cancer alone accounts for 25% of all cancer cases and 15% of all cancer deaths among females (Torre et al, 2015). Since 2008, breast cancer incidence has increased by more than 20%, while mortality has increased by 14% up to 2012 (WHO, 2013). Breast cancer is also the most common cause of cancer deaths among women (522 000 deaths in 2012) and the most frequently diagnosed cancer among women in 140 of 184 countries worldwide (WHO, 2013). Even though incidence rates of breast cancer are still high in more developed nations, mortality is greater in less developed countries, owing to lack of access to treatment as well as early detection of the disease (Ayoola et al, 2016).

About half of the breast cancer cases and 60% of the deaths occur in developing countries (Jemal et al, 2011). Throughout the ranking of most common cancers among women according to the number of deaths, by cancer site and region, breast cancer was placed at 2nd in South East Asia as indicated in the Global Burden of Disease 2004 (WHO, 2008). It is estimated that worldwide over 508,000 women died in 2011 due to breast cancer (WHO, 2013). Incidence rates vary greatly from 19.3 per 100,000 women in Eastern Africa to 89.9 per 100,000 women in Western Europe (Ferlay et al, 2010).

Breast self- examination (BSE) is the most important, cheapest and easiest screening method for early detection of breast cancers. American Cancer Society Guidelines for the early detection of breast cancer vary depending on women's age. It includes

mammography, clinical breast examination (CBE) and magnetic resonance imaging (MRI) (American Cancer Society, 2013).

1.2 Sri Lankan Situation

The National Cancer Control Program, Ministry of Health & Indigenous Medicine reports that breast cancer is the leading cancer in Sri Lanka followed by cancers of the lip, oral cavity and the pharynx in 2008 (National Cancer Control Programme, 2014). Trend analyses have discovered that breast cancer rates doubled from 1985 to 2005 (Engelgau et al, 2010).

For the year 2005, breast cancer ranked the first cancer among females in Sri Lanka and accounted for 25.4% of the total cancers. The Age Standardized Rate of Breast Cancer (ASR) was 11.6 per 100,000 population and among females it was 21.8 per 100,000 population in 2008 (National Cancer Control Programme, 2014).

According to cancer incidence by district, Colombo displays the second highest breast cancer incidence island wide in 2008 with a rate of 16.7% (National Cancer Control Programme, 2014). As stated by the National Cancer Control Programme, reported cases of breast cancer among females were in the age group of 15 – 75 years with the most vulnerable age being 35 years or above.

1.3 Justification

According to these data, although breast cancer awareness programs are being carried out, prevalence of breast cancer is high in Sri Lankan women (Ranasinghe et al, 2013). This emphasizes the importance of promoting breast cancer awareness throughout the country. Poor knowledge and misbeliefs about breast cancer result in low participation in screening tests and further treatment. Therefore improving breast cancer related knowledge among Sri Lankan females is very significant in this era.

A study was done to describe factors related to timing of first contact with an allopathic medical practitioner, among 335 patients with symptoms of breast cancer attending breast clinic at Cancer Institute, Maharagama.. These study findings suggest that delay in seeking treatment for suspected breast cancer is a problem in Sri Lanka. There should be greater awareness regarding effectiveness of early detection (Kumari&Goonewardena, 2011).

Another study was conducted to assess awareness of breast cancer among 126 female patients with breast diseases in Teaching Hospital Karapitiya, Galle, Sri Lanka in 2008. This study revealed that breast lump is the best known symptom and it was admitted by 94 (74.6%) patients. Fifty two patients (41.2%) knew that nipple discharge is a symptom of breast cancer. The least known symptom was ulceration of the skin over the breast, which was known to 12.6 % of the participants (Mudduwa&Wijesinghe, 2008).

A study has done to concern the effectiveness of an educational intervention for improving knowledge, attitudes and practices (KAP) of breast cancer early detection among target group women (TGW) in the Gampaha district, Sri Lanka.In their conclusionthe educational intervention was found to be effective (Vithana, Ariyaratna&Jayawardana, 2015).

When considering second high breast cancer prevalence, it is important to conduct awareness programs in Colombo district. Since teachers play an effective role in educating and motivating young students, they should be made knowledgeable enough to spread messages. Furthermore, educating the youth about persisting issues in the society will support effectively to distribute knowledge regarding breast cancer throughout the society in a long term basis. Government school teachers are selected due to feasibility.

Assessment of the current knowledge is essential to identify gaps in the current awareness programmes to plan more effective preventive approaches to reduce the risk of breast cancer among future young generations. There are no published data on awareness of breast cancer among school female teachers in Sri Lanka and also there are lacks of data available on studies carried out with this regard in the country. Therefore, the aim of the study was to assess awareness of breast cancer among female school teachers in selected government schools in Colombo district as an initial step.

1.4 Objectives

1.4.1 General objective

To assess awareness of breast cancer among female school teachers aged 25 to 50 years in selected government schools in Colombo district.

1.4.2 Specific objectives

1. To identify knowledge on signs and symptoms of breast cancer among school teachers aged 25 to 50 years in selected government schools in Colombo district.

2. To identify knowledge on major risk factors for breast cancer among school teachers aged 25 to 50 years in selected government schools in Colombo district.

3. To identify knowledge on the importance of early detection, available screening methods, mode of spread, treatments available and the sources of information among school teachers aged 25 to 50 years in selected government schools in Colombo district.

2. Materials and Methods

2.1 Study design

A descriptive cross sectional study.

2.2 Study setting

Selected government schools in Colombo district.

2.3 Study period

8th of February to 26th of September 2016.

2.4 Study population

Female teachers aged 25-50 years, working in selected government schools in Colombo district.

2.5. Sample size calculation

The 640 of sample size was drawn by using following formula,

$$n = \frac{Z^2 P (1-P)}{d^2}$$

n = sample size

Z = 1.96; Critical value for 95% confidence interval

P = Expected proportion of knowledge on breast cancer in the study population; taken as 50%

d = precision taken as 5%

$n = \dfrac{(1.96)^2 * 0.5 * (1 - 0.5)}{(0.05)^2} = 384.16$

Design effect was taken as 1.5

Therefore sample size was 384* 1.5 = 576

The non-response rate was taken as 10%.

10% of the sample = 57.6

The final sample size = 633.6

The sample size was taken as 640.

Multi-staged cluster sampling method was performed to collect a representative sample from teachers. Schools in Colombo district were stratified according to school category as 1AB, 1C, type 2 and type 3. Category 1AB schools have A/L classes including science stream. Category 1C schools have A/L classes only in arts and commerce. Category type 2 schools have year 1 to 11 classes. Category type 3 schools have year 1 to 5 classes.

2.6 Data collection instrument

Primary data collection was done by means of a structured, pre-tested, self-administered questionnaire, following thorough literature review and expert opinion. The English version was translated to Sinhala and backward translation was done with the help of bilingual experts. Face and content validity was assessed with expert opinion. Since the questionnaire was anonymous no identification data was collected.The Questionnaire consisted of 6 sections, with a total of 33 items.

3.Results, interpretation and discussion

School teachers are an important target group for promotion of proper health habits, in particular with regards to breast health. To the best of our knowledge there are no published data on awareness of breast cancer among female school teachers in Sri Lanka. Only a few published studies regarding breast cancer in Sri Lanka are available. Awareness of breast cancer among adolescent girls in Colombo, Sri Lanka, a school based study (Ranasinghe et al, 2013). Awareness of breast cancer among females with breast diseases (Mudduwa&Wijesinghe, 2008). Effectiveness of an Educational Intervention among Public Health Midwives on Breast Cancer Early Detection in the

District of Gampaha, Sri Lanka (Vithana, Ariyaratna&Jayawardana, 2015). Delay among women reporting symptoms of Breast cancer (Kumari&Goonewardena, 2011). Knowledge and Practices on Breast and Cervical Cancer Screening Methods among Female Health Care Workers, A Sri Lankan Experience (Nilaweera et al, 2012). Awareness of female malignancies among women and their partners in Sourthern Sri Lanka and implications for screening (Witharana et al, 2015).

This study aimed to give an overview of the knowledge related to breast cancer among female teachers working in government schools in Colombo district. Participants were selected from 4 categories of school types from Maharagama and Dehiwala educational divisions. The age range of the selected participants in this study falls within 25 to 50. As stated by the National Cancer Control Programme, reported cases of breast cancer among females in Sri Lanka were in the age group of 15 – 75 years with the most vulnerable age being 35 years or above (National Cancer Control Programme, 2014). In the present study, main sources of information about breast cancer were television and radio (86.4%). Very low percentage (25%) have received information from health care workers (very low percentage around 25% of information were received from health care workers. Previous Sri Lankan study conducted also showed the role played by healthcare personnel in educating women about breast cancer cannot be claimed unsatisfactory but can be improved (Mudduwa&Wijesinghe, 2008). Similarly, Habib et al also identified television as the leading medium of information about breast cancer. Furthermore, a very low proportion of women indicated that they received any information from their doctors (Habib et al, 2010). Another study also has reported mass media (Radio, TV and newspaper) as the main source of knowledge on breast cancer (Faronbi et al, 2012 &Shammala& Abed, 2015).

The study findings revealed that a majority (48.3%) of respondents had better knowledge on early warning signs of breast cancer. As shown in table 24, (48.3%) of the teachers had good knowledge regarding early warning signs and symptoms, (34.2%) had a fair knowledge on early warning signs and only a less population (17.9%) knew at least one sign and symptom (poor knowledge) of the disease. The previous study done in Sri Lanka, among adolescent girls, showed the knowledge of early warning signs were poor (Ranasinghe et al, 2013). The majority of teachers (83.3%) identified painless

breast lump as the commonest sign of breast cancer. In a study among Indian school teachers, the results were comparable with90.2%knowing about the breast lump (Khokhar, 2009). In our study more than half of the participants were aware about the skin changes of the breast (64.2%), lump in an arm or armpit (52.0%), and nipple discharges in non-pregnant women (60.3%) were also other early warning signs. This finding is consistent with what was reported by Habib et al. In their study on awareness and knowledge of breast cancer, which revealed that students were aware of painless lump in the breast, bloody or any discharge from the nipple and changes in the breast skin as the most common warning signs of breast cancer (Habib et al, 2010).

Knowledge regarding awareness about the risk factors was fair among the participants. Majority of participants (59.8%) had fair knowledge on risk factors. Family history of breast cancer was identified (78.6%) as an established risk factor for the disease. In a similar study conducted in India 60.0% knew that family history was important (Khokhar, 2009). A study from Saudi Arabia also had a similar picture with 57.5% identifying family history as a risk factor (Radi, 2013). Majority of participants (81.7%) were aware that breast feeding is not a risk factor for breast cancer. Similarly 59.2% knew that women who did not breast feed were at a higher risk to develop breast cancer in the study done in India (Khokhar, 2009). In this study, more than 70% of teachers were unaware of early menarche and late menopauses risk factors. In the study done in Saudi Arabia also early menarche and late menopause were identified as risk factors by 17% and 18.5% respectively (Radi, 2013).

Almost all the respondents thought that early detection is ought to improve the outcome of treatment of breast cancer. The previous Sri Lankan study showed that only 77.7% being aware that early detection of cancer increases the chances of cure (Mudduwa&Wijesinghe, 2008).

Only 39.8% teachers were aware that the breast cancer cells can spread through blood. In contrast to our result the previously done study in Sri Lanka reported 69.8% (Mudduwa&Wijesinghe, 2008).

Breast self-examination, clinical breast examination and mammography are considered as screening methods for early detection breast cancer. Breast self-examination is one

of the essential screening methods for early detection of breast cancer and the procedures are easy, non-invasive and involve little time (Ayoola&Oyedunni, 2016). Only 29.2% participants knew the correct frequency of performing BSE. To support our findings only 13.37% knew that the correct frequency of doing it was once a month (Khokhar, 2009). In our study there were 86.9% participants who heard the term BSE and 83.0% thought that it was useful in early detection. Among female secondary school teachers in Nigeria76.2% claimed to have heard of BSE (Ayoola&Oyedunni, 2016). Another study done among Nigerian female secondary school teachers showed that there is a high level of awareness (82%) of BSE among the respondents (Faronbi&Abolade, 2012).School teachers can help young adults to develop healthy lifestyle practices and promote BSE as a part of regular lifestyle. So that number of women at a younger age become familiar with the normal look and feel of their breasts a key tool towards breast cancer control (Shammala& Abed, 2012).

The terms mammography and clinical breast examination (CBE) were heard by 50.9% and 65.2% respectively. A study conducted in Sri Lanka previously among public health midwives reported that, with regards to knowledge aspect on breast cancer screening methods, most participants were aware of BSE (98.6%) and CBE (94.1%) but not on mammography (64.3%) (Nilaweera et al, 2012). A study done in Nigeria BSE, CBE and mammography are considered as screening methods for early detection of breast cancer (Ayoola&Oyedunni, 2016).

In this study more than one third (45.3%) of participants were performing BSE and 54.7% were not performing BSE as a screening method. A study in Iran showed that school teachers were reasonably aware of breast cancer risk but the percentage actually performing BSE was very small (6% out of a sample of 578 women) (Habib et al, 2010). Study done among Nigerian secondary school teachers showed BSE was poorly practiced (18%) (Faronbi&Abolade, 2012), whilst our finding was better (45.3%) than this. Barriers to BSE as observed in this study were similar to that study done in Iran (Habib et al, 2010). The most common reason for not performing BSE was that the participants felt that it was not necessary (61.1%). Among participants only 14.7% were performing CBE and all the other participants (85.3%) were not performing CBE. Most

common reason for not performing CBE was the belief of the participants that they were not positive for having breast problems.

The study participants generally had a good knowledge (49.5%) on management and treatment options on breast cancer. Among participants 37.5% had fair knowledge and only 13.0% had poor knowledge regarding breast cancer treatment. Most of the study participants (75.8%) thought radiotherapy is the best treatment option. Other than that more than half of the participants thought surgery (57.8%) and chemotherapy (57.8%) as important treatment options. Of 18.8% of the participants believed that the use of herbal medicine to be a correct treatment whilst the majority (48.8%) stated that they were unaware of such treatment. However this fact needs further verification by future studies.

Majority of the participants (91.1%) did not have a family history of breast cancer. Even with a family history only 47.0% of them had a good knowledge regarding early warning signs and symptoms of breast cancer. Only 34.3% had fair knowledge and 18.7% had poor knowledge on breast cancer early warning signs. The rest of the study participants (8.9%) had a family history of breast cancer. Among them 61.4% had the knowledge on breast cancer early warning signs, 33.3% had fair knowledge and 5.3% had poor knowledge regarding breast cancer early warning signs. So study was revealed that there was a significant relationship (P=0.022) between family history and knowledge on breast cancer early warning signs.

When we discuss about the relationship of family history and breast cancer risk factors, the study showed that there was no relationship (P=0.104) between 2 of those. Among the participants 91.1% who had not family history only 3.1% had very good knowledge, 22% had good knowledge and majority (60.5%) had fair knowledge on risk factors. Participants who had got the family history (8.9%), Only 7% had very good knowledge, 31.6% had good knowledge and only 52.6% had fair knowledge regarding breast cancer risk factors. Though they had a family history, study findings showed it was not a major factor for developing the knowledge on others.

Among the participants who did not have a family history, 39.1% had good knowledge and 47.2% had fair knowledge regarding the early detection, screening methods and

mode of spread. Majority of the participants (64.9%) had good knowledge among those who had a family history. Thus the study showed that there was a relationship (P=0.001) between the family history and early detection, screening methods and mode of spread. A previous study conducted in Jordan also showed that women with a family history of breast cancer had better general breast cancer knowledge and awareness about breast cancer screening (Madanth&Merril, 2002). Participants with family history had good knowledge on treatment options (66.7%). There was a connection between family history and treatment options (p=0.025). Previous study conducted in India also reported facts similar to the above (Khokhar, 2009).

This study findings showed that there was a relationship (P=0.000) between performing BSE and family history of breast cancer. Participants who did not have a family history, 42.4% were performing BSE and 57.6% were not performing BSE. Among the participants who had a family history 75.4% of them were performing BSE and only 24.6% were not performed. Similar facts were reported in previous studies. Positive family history of breast cancer was an important and effective factor on performing breast screening as it was significantly associated with increasing the performance rates of breast screening (Shammala& Abed, 2015). In this study showed that there was a relationship on performing BSE and the participants (86.9%) who had heard about BSE. Among these participants 52% had performed the BSE and 48% had not performed BSE. Those who had not heard (13.1%) only 1.2% of participants had performed BSE and 98.8% of them had not performed BSE.

4. Conclusion and recommendations

This study provides important baseline information regarding the knowledge on breast cancer, early warning signs, early detection, screening methods and treatment options among female school teachers in Colombo district, Sri Lanka. Overall, the knowledge of these among our target population is satisfactory. Risk factors, mode of spread and practicing of BSE knowledge were not at a satisfactory level.

Teachers constitute of a group of professionals who maintains regular contact not only with their students in schools but also with community members who look at them as change agents and role models. Teachers are the fulcrum on which the level of educational   system   in a country is based (Ayoola&Oyedunni, 2016). Periodic

intervention programmes targeting teachers in public schools should be undertaken. This could be comprised of talks and demonstrations carried out by interest groups. Relevant nongovernmental organizations (NGOs) can make a significant contribution to breast cancer awareness and screening methods education by sponsoring health talks and workshops for teachers to reposition them better in order to reach out to their students and the community at large. Information, Education and Communication materials (IEC) can be provided to the teachers. Supporting of health education programs in school levels or zonal level is importance.

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