

A Critical Review on Breast Cancer Literature: Screening, Awareness and Preventive Measures

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Doi:10.5901/mjss.2015.v6n4s3p256

Abstract

Breast cancer has become the most common cancer diagnosed in women. This paper reviews key literature on breast cancer covering various aspects including breast cancer and self-examination, awareness level of breast cancer among women, psychological stress of breast cancer patients, causes of breast cancer and preventive measures for breast cancer. This paper sheds light to urban and young women that self-screening is one of the important yardsticks to prevent late diagnosis of breast cancer and after-math of breast cancer treatment.

Keywords: Breast cancer, awareness, screening, symptoms, risk, preventive measures, India

1. Introduction

Breast cancer, the most common non-skin cancer, is now ranked as the first among all cancers diagnosed in women (Kolahdoozan, Sadjadi, Radmard, & Khademi, 2010). It accounts for over 10% of all cancers among women worldwide (Bray, McCarron, & Parkin, 2004) which in turn causes the most frequent cause of cancer death in women in both developing and developed regions (Jacques Ferlay et al., 2010).

Breast cancer has been growing in a rapid manner with nearly one million new cases each year (Maxwell Parkin, Bray, Ferlay, & Pisani, 2001). One of the recent studies stated that, more than half (52.9%) of 1.67 million new breast cancer cases were diagnosed particularly in developing countries and as an evidence, nearly 62% of deaths occurred in developing countries due to the effect with breast cancer in 2012 (J. Ferlay et al., 2013). It must be noted that mortality rate of breast cancer is comparatively less in high-income countries than low and middle income countries (Jacques Ferlay et al., 2010)

In India, young women who are relatively at the premenopausal stage are very much stricken to the effect of breast cancer (Sandhu, Sandhu, Karwasra, & Marwah, 2010). At the same time, Asian Indian women specifically who immigrate to the United States have higher breast cancer rates when compared to their corresponding place in India (Smyer & Stenvig, 2007). Moreover, as an effect of lifestyle factors, the incidence of breast cancer is higher among women in urban areas than among who lives in rural regions (Bao & Davidson, 2007). Despite of the promising survival rates, breast cancer leads to the most harmful side effects like loss of breast(s), deformities in the breast(s), tissue damage, decreased range of motion, muscle loss/weakness, and weight gain, etc (K. K. Collins et al., 2011) which provokes a major stress among women (Compas & Luecken, 2002). Therefore, the purpose of this research is to review literature on breast cancer that creates awareness, screening and preventive measures of breast cancer.

2. Review of Literature

In general, Cancer is a disease that largely affects the quality of life of the people (Cohen, 2000). Breast cancer is more hazardous among all other cancers which entails the five-year survival rate of about 85% and the ten-year for 71% (Imaginis, 2005), however, early detection and effective treatment can lead to improved survival rate of breast cancer patients (American Cancer Society, 2014). Screening helps in early detection of breast cancer as it is related to the

perceptions of risk, benefit, and barriers through a reasoning process, but it is said that breast cancer screening techniques are underused (Carter, Park, Moadel, Cleary, & Morgan, 2002; Schootman & Jaffe, 2003). However, screening participation will be effective in influencing breast cancer death only if the screening examination is performed in the stage when the breast cancer is detectable on the mammogram (Weiss, 2011).

More than 90% of breast cancer patients seek medical attention only at advanced stages (Mohiuddin et al., 2012; Story et al., 2012) and in consequence almost all breast cancer cases are detected clinically. There are many screening methods like mammogram, breast self-examination, etc., which helps people in early detection but about 77% of the people were unaware of breast cancer screening methods (Ozaras, Durualp, Civelek, Gül, & Unsal, 2010). To be noted, lack of knowledge about how to detect the disease at an early stage would potentially lead to misconceptions regarding its curability and the effectiveness of early detections (Dandash & Al-Mohaimed, 2007).

2.1 *Breast Cancer Symptoms*

As a defensive measure, women should know how their breast(s) normally feel. There are many primary symptoms like insomnia, diarrhoea, constipation, loss of taste, fatigue, vomiting, and pain that indicates the existence of breast cancer (Chie, Chang, Huang, & Kuo, 2003; Peintinger, Reitsamer, Stranzl, & Ralph, 2003; Zotti et al., 2000). In addition to common symptoms like breast symptoms, discomfort due to hair loss or, arm symptoms, there are several dissimilarities in functional aspects like expectations for future, sexual functionality, and sexual satisfaction as well (G.C., S., B.M., D., & J., 2001; Zhao & Kanda, 2000).

All these changes would likely affect women's valuation of their bodies (Fobair et al., 2006; Helms, O'Hea, & Corso, 2008) and experience poor body image and body dissatisfaction (Chen, Liao, Chen, Chan, & Chen, 2012), which may continue for years following diagnosis and treatment (Falk Dahl, Reinertsen, Nesvold, Fossa, & Dahl, 2010). The adaptation of a western lifestyle such as dietary, hormonal determinants and the like paves the way for increase in breast cancer occurrence among Asian and Asian American women (Maxwell Parkin et al., 2001).

2.2 *Breast Cancer Risk*

In India, premenopausal women constitute about 50% of all breast cancer patients (Khokhar, 2012). The risk for premenopausal breast cancer is highly evident because of the causal link between cigarette smoking at a young age (Bjerkaas et al., 2013; Dossus et al., 2014; Glantz & Johnson, 2014). Looking into the breast cancer arrival in postmenopausal stage, dietary fat and a higher body mass index are subject to increase in the risk (MacMahon, 2006). Further, there are several reproductive and non-reproductive factors like first pregnancy, breastfeeding, parity and menopausal hormone therapy, body mass index, alcohol intake family history of cancer, respectively has been noted to have related with the risk of breast cancer (Ban & Godellas, 2014).

Even there is an increase in number of pregnancy-associated breast cancer (Smith, Dalrymple, Leiserowitz, Danielsen, & Gilbert, 2001) which arises because of personal history of breast cancer, family history of breast cancer, advanced maternal age, increased consumption of alcohol, and a sedentary lifestyle (American Cancer Society & Society, 2013). However, termination of pregnancy does not ensure survival of the patient and it is of no use to cancer therapy, rather, breast lumps should undergo immediate consultation during pregnancy or lactation in order to reduce the risk factors (Helewa et al., 2002). Men should be given proper knowledge about breast cancer so that they can have the potential to understand the effects of the breast cancer and provide essential support when his partner or relative develops the syndrome (McMenamin et al., 2005).

Breast cancer arousal has been shown to be higher in women of higher socio-economic groups than the women with lower average social status (Shack, Jordan, Thomson, Mak, & Møller, 2008) has been known by establishing the relationship between the risk of breast cancer and socio-economic status (Kurkure & Yeole, 2006).

Also it should be noted that despite of common known factors like age, family history, etc., breast size is one of the major independent risk factor denotes breast cancer (Stuckey, 2011). Also, brassiere use was measured as a risk factor in the study conducted by Hsieh & Trichopoulos, (1991). In a recent study, it is found that Cup size was a strong predictor of breast cancer mortality by taking a sample of 79,124 women (Williams, 2013). Bottorff et al., (2010), reported that tobacco exposure is the one that highly accounts for the risk of breast cancer.

2.3 *Breast Cancer Consequences*

In the face of a growing body of literature on health beliefs and health education, there are several studies that are

concerned with breast cancer (Bowling, 1996). One among those studies found that women diagnosed with breast cancer and undergoing treatment experience psychological distress (David, Montgomery, Macavei, & Bovbjerg, 2005). Breast loss is the major cause for psychological distress in women who has been treated for breast cancer (Costanzo et al., 2007). Even it is measured and found that there is a correlation between women risk perception and worry about breast cancer (V. Collins, Halliday, Warren, & Williamson, 2000; Lipkus et al., 2000). Some previous studies reported that inconvenience, embarrassment, worry, fear, etc., are the top most reasons for hesitation of undergoing screening activities.

Coping strategy is the best that is strongly associated with adjustment and functioning of breast cancer patients as well as with emotional distress in recurrent patients (Cohen, 2002; Kershaw, Northouse, Kritpracha, Schafenacker, & Mood, 2004). Age and language ability also plays a significant role in predicting health status among immigrant women (Landrine & Klonoff, 2004). For example, it is proved that women with better language ability were more likely to obtain breast examinations (O'Malley, Kerner, Johnson, & Mandelblatt, 1999).

2.4 Preventive Measures

However, breast cancer patients can attain benefit in a number of ways where breast implant is the topmost measure to cure the controversy of breast cancer (Deapen, Hirsch, & Brody, 2007). It would be even easier, if they undergo the prescribed exercise properly during treatment (Courneya et al., 2007).

There is another study that nourishes the relationship between vegetable consumption and the breast cancer risk (Shannon et al., 2005). Also, there are some specifications about the vegetable intake like dark yellow types (Malin et al., 2003), cruciferous (Terry, Terry, & Wolk, 2001), tomatoes (Min, Sang, Jung, Pa, & Min, 2007) and broccoli (Joseph et al., 2004) that would reduce the risk of breast cancer. No other dietary factors have been related to the risk of breast cancer either in pre or postmenopausal women (World Cancer Research Fund, 2007).

2.5 Breast Cancer Screening

Screening is the boon for breast cancer patients ever which helps in diagnosing the breast cancer even before it occurs symptomatically (Bleyer & Welch, 2012). The trials of screening strategies works well in indicating how screening saved lives along with the statement of overdiagnosis harmfulness (Göttsche, 2012). The population based approach for implementation of breast cancer screening is recommended as it aims to give each eligible individual an equal chance of getting benefited from with effective quality assurance (Lyng, Törnberg, Von Karsa, Segnan, & Van Delden, 2012). Screening invitations is limited to women who are more than 50 years of age especially in European countries (Giordano et al., 2012). Most of the people especially the Arab Muslims perceive that the absence of symptoms and signs for indicating good health which makes them to deny the progression of early detection of breast cancers (Donnelly et al., 2013).

The major screening strategies considered in this study are mammography, Breast Self Examination (BSE), and Clinical Breast Examination (CBE). These strategies help in identifying tumour. Speaking of which Mammography screening is the best method of screening which helps in early detection that reduces the breast-cancer mortality rates (Glasziou & Houssami, 2011; Marmot et al., 2013; Uk & Cancer, 2012). Mammography is the most efficient way since it helps in diagnosing cancer at the asymptomatic stage. Say, when a breast cancer is identified in a asymptomatic stage the chance of treating in a positive direction is more. For instance, a recent study found that mammography screening reduces the mortality of breast cancer by an estimated fifteen percentage (Drukteinis, Mooney, Flowers, & Gatenby, 2013). There is a necessity for investigating various methods to explore the quality and benefits of mammography screening (Autier, Esserman, Flowers, & Houssami, 2012).

The newest improvement in mammography screening is called 'Tomosynthesis' which came into practice to improve acceptance. It is especially helpful for the women who possess dense breasts. The major advantage of this tomosynthesis is lower recall rates and it also facilitates slight increase in cancer detection (Haas et al., 2013). Mammography screening has grown a step forward from plain-film to digital mammography. With the implementation digital mammography higher test sensitivity for women aged fifty years and women with dense breasts has been experienced (Bluekens, Holland, Karssemeijer, Broeders, & den Heeten, 2012).

Breast Self Examination is something where women need to go for examining their breasts once in every month (Shin et al., 2012). The estimation of sensitivity and specificity during BSE have experienced growth (Suh, Atashili, Fuh, & Eta, 2012) but however study conducted by Hackshaw & Paul, (2003) concluded that BSE is not efficient in reducing the mortality rate since there is no huge variation in mortality rates of those who practiced or undergone BSE. Looking deeply

it is quite an inexpensive strategy which is associated more with women who seeks medical care.

Clinical breast exam is the process of examining the breasts with the help of clinicians. Efficiency of examination of breasts by health professional is highly influenced by three major concerns like training and skills of the consultant, age of the woman, and size of tumour. CBE is very much effective in laying positive predictive value (Shahnazi & Khalili, 2010).

The awareness and exercising of mammography screening was slightly higher in urban women when compared to their rural counterparts (Leung, McKenzie, Martin, Dobson, & McLaughlin, 2014). It is because of the reasons like mobile access, awareness campaigns, education system, etc, (McDonald & Sherman, 2010). The most common reason for women for being not able to participate in screening activities is the inability of speaking English or French. On the other hand women in remote areas have only limited access to alternatives and hence they just simply prefer dropping out the system which they feel as hostile rather than dealing with it. (Todd & Stuijbergen, 2012). Another reason for people for neglecting screening is related to the lack of physician recommendation (Othman et al., 2013).

It is necessary to create awareness so as to ensure a better screening of breast cancer (Fallowfield, 1995). For instance, creating awareness about early detection and screening practices by designing educational programs at the high school and college levels that will instil in young women (Shin, Park, & Kim, 2012). Luker, et al., (1996), also found that women with breast cancer sought and paid attention to information from medical books and journals. Another efficient way of disseminating information is targeting the mothers of young daughters and conveying the messages about adolescent breast cancer risk reduction, since they are the primary caretakers of children (Janicke & Finney, 2003). It also helps in making precautions among young girls at a very early stage (Adzersen, Jess, Freivogel, Gerhard, & Bastert, 2003).

Information plays a vital role in influencing the decision making of women with breast cancer (Luker et al., 1995). It is due to the fact that well informed women would take a better decision which ensures their health and well being (ACS, 2012). It is made easier, that preventive measures about all health issues including breast cancer in available online and since anyone with access to the internet can now obtain information instantaneously and interact with online discussions and content and make use of it in order to make avail effective treatment (Chou, Prestin, Lyons, & Wen, 2013).

3. Conclusion

People need to understand that early detection of breast cancer save thousands of lives each year. Moreover it is advisable to seek help from the health providers for taking advantage of the screening tests (American Cancer Society, 2011). Several studies that has been conducted in high income; low- and middle income countries have shown that patients of breast cancer and their corresponding families are in need of physical and psychosocial supportive care during their treatment (Schmid-Buchi, Halfens, Muller, Dassen, & van den Borne, 2013).

It is not that a person is having breast cancer for taking a screening test. It is unpredictable that whether an individual can benefit from screening or land in having treatment. However the notion here is if a person chose to undergo screening he or she has the chance of having their life extended with some consequences but if not so they are meant to be risking their life as whole as a result of lack of early detection. Thus, doing so, (i.e., breast cancer screening) will lead to a long term positive health implication as once started in a early age it will continue into adulthood and even throughout life (Ludwick & Gaczkowski, 2001). Practitioners need to provide evocative counselling about the breast cancer collectively progressed from personal experience and outside sources to increase the awareness level of early detection through proper screening of breast cancer (Wright et al., 2015).

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