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RISK FACTORS OF BREAST CANCER AMONG MARRIED WOMEN

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ABSTRACT

Globally, cancer is a major public health problem and the incidence is increasing rapidly in many low- and middle-income countries due to the epidemiological transition. Breast cancer is the leading cancer in females in many countries including India, hence risk factors estimation aims to plan and prioritize health care services including both diagnostic and treatment facilities. This study aims to identify risk factors of breast cancer among married women.in Chennai. The quantitative, descriptive research design was adopted. All married women between 20-60 years of age and residing in selected areas of Chennai were included as sample. Non-probability convenient sampling technique was used to select 100 samples. A check list developed by the investigator was used to assess the risk factor of breast cancer. Through structured interview method the data were collected and analyzed by descriptive & inferential statistics. Among 100 samples, 39 % were in the age group of 31- 40 years, 89 % women were home makers and nearly half of them resided in urban areas. Regarding the assessment of risk factors among married women, 70 % had no risk, 25% were in low risk, 5% only were in moderate risk group and no one was in high-risk group. Regarding association, women were in menopause stage, illiterate and nulliparity had significant at $P < 0.05\%$. The study findings depicted that; identification of risk factor makes warning sign to all women go for breast cancer screening approach aids to prevent and early identification of new cases.

INTRODUCTION

Globally, 30% of women represents with breast cancer among one in five of all cancers like lung and bronchus (12%), Rectal and colon cancer (8%), Uterine (7%) and thyroid (5%) [1]. It is also the most common and leading cause of mortality among women in worldwide, especially developing countries representing 23% of the total cancer cases of 14% mortalities [2].

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This is a metastatic cancer can commonly transfer to distant organs such as the bones, lungs, liver and brain which mainly accounts for its incurability. But early diagnosis of the disease can lead to a good prognosis and a high survival rate. In North American, the 5-year relative survival rate of breast cancer patients are above 80% due to the timely detection of this disease [3].

The prevalence rate of breast cancer in America increases from 1975-2010, the mortality rate decreased predominantly due to early screenings and advanced medical therapies. Most breast cancer occurred in women and the number of cases is 100 times higher in women

than men. But there are various risk factors such as ageing, sex, estrogen, gene mutations, family history and unhealthy lifestyles, which can multiply the chance of developing breast cancer. The awareness about risk factors and early detection led to decline the prevalence of breast cancer [4].

Prusty RK (2020) stated in a community based study among 480 women aged 18–55 years in Mumbai. The findings reported that, around half (49%) of the women were aware of breast cancer and less than one-fifth of the women reported that early menstruation (5.6%), late menopause (10%), hormone therapy (13%), late pregnancy (15%) and obesity (19%) as the risk factors for breast cancer and also revealed that knowledge of danger signs & risk factors of breast cancer were low among women in the community [5]. In another case control study conducted in India found that, the major risk factors are age, diet, hip size, waist size, body mass index, waist-hip ratio (WHR), triglyceride, high-density lipoprotein cholesterol, excess of three pregnancies, number of years of menstruation and history of carcinoma in relatives [6]. The reasons for varying prevalence of breast cancer among women are not fully understood, which are likely to be explained by reproductive and lifestyle factors such as age at menarche and menopause, literacy, diet, age at first delivery, abortion and family history of Breast Cancer. The overall risk factors of breast cancer were illustrated in figure 1

In another cohort study reported that, among 58,191 Norwegian women nearly 2890 breast cancers were detected and identified as risk factors are parity, height, body mass index (BMI), age at menarche and menopause [7]. In case control study conducted in Manipal, showed that non-vegetarian diet was one of the predominant risk factors (OR 2.80, CI 1.15-6.81) [8]. In retrospective study done in Ghana, identified the predominant risk factors from 150 medical records proved that obesity was the most dominant risk factor followed by smoking and alcohol consumption[9] Chaubey JK stated in community-based study, the risk of breast cancer was more in illiterates, joint family, women who attained menopause, & high socioeconomic class women when compared with hospital & community controls and recommended that, the need for general public-awareness policies and programs to reduce the prevalence, risks, morbidity and mortality. The advanced modalities like mammography, Magnetic Resonance Imaging (MRI), is a widely used screening approach in detecting breast cancer and proved to reduce mortality effectively during the last decade [10].

BACKGROUND -Current scenario

Global Level

In 2021, More women were diagnosed with breast cancer than any other type of cancer, besides skin cancer. Across the globe, the breast cancer distributed as, around 46,000 in England, 4,700 in Scotland, 2,800 in Wales and 1500 in Northern Ireland. In 2020, there were 2.3 million women diagnosed and 6,85,000 deaths globally. There were 7.8 million women alive who were investigated with breast cancer in the past 5 years, making it the world's most prevalent cancer. It ensures, across the world in women at any age after puberty but increasing rates in later life. In UK, it's the most common cancer in women and diagnosed one woman in every 10 minutes and around 55,000 women and 370 men are diagnosed. One in seven women will develop breast cancer in their lifetime.[11]

National Level

National Cancer Registry Program (2020) estimated that, breast cancer is most prevalent cancer among Indian women around 2 lakhs. one woman gets diagnosed with in every 4 minutes, and one woman dies in every 13 minutes in India [12]. According to 2018, estimated that prevalence rate of breast cancer among women was 1,62,468 (27.7%), and the mortality rate was 87,090(23.5%). It means in Indian women almost about one in four deaths due to Breast cancer. According to age distribution of breast cancer in India, 37.7% of cases in younger age group (25-49years), 46.5% were in age group (50-69 years) and 23.4% were in age group 70 & above [13]. The age adjusted incidence rate of carcinoma of the breast found as high as 41/ 100,000 women for Delhi, followed by Chennai (37.9) Bangalore (34.4) and Thiruvananthapuram (33.7). Other states account for 25% to 32% of female cancers in cities like Mumbai, Delhi, Bengaluru, Bhopal, Kolkata, Chennai and Ahmedabad [14]

State Level

The TN cancer registry report 2020 released that new Cancer burden was 78,641, and the state showed that more women with cancer than men. Also, the National cancer Registry program 2020, revealed that the prevalence of Breast cancer in Chennai was 52 per 1,00,000 population. It also estimated, a decade ago Breast cancer in Chennai was only 27 per 1,00,000 population, now it increases as two-fold. Breast cancer Incidence in Chennai was highest among the country [15]. According to 2018, Tamilnadu had around 10,269 breast cancer cases but in 2016 had 9,486 cases; it's estimated that rising by maximum 4% yearly. In 2016 the estimated overall cancer was 65,590, and prevalence of cancer in Chennai (140.8) followed by Thanjavur (105.7), Kancheepuram (102.8), Kanyakumari (101.7), Tiruvallur (100.7) and least cancer registered in Krishnagiri (48.5). Among all cancers, breast cancer Crude Incidence Rate was 24.7 per1,00,000 population. There were significant increases of breast

cancer in Chennai (46.4) per1,00,000 population followed by Kanyakumari (31.7) [16]

Significance of the study

The rapid increase in the global cancer burden represents a real challenge for worldwide health systems. For a country like India with enormous population, diverse cultures, geographical variations, diets and habits, sources of information on cancer risk factors are considerably limited. The risk factor identification among women, aids to focus on preventive aspects and early identification promotes survival rate and decrease the incidence as well as mortality rate of breast cancer. Cancer estimations are useful especially in a developing country like India where there is an intense need to plan and prioritize health care services including both diagnostic and treatment facilities. Breast cancer projection for India during time periods 2020 suggests the number to go as high as 1,79,7900 among all the cancers. [14,17]. Hence need to know and identify the risk factor is vital. The present study aims to assess the risk factors of breast Cancer among married women in selected areas in Chennai.

OBJECTIVES

To assess the level of risk factors of breast cancer among married women.

To associate the level of risk factors of breast cancer among married women with their selected demographic variables.

MATERIALS AND METHODS

The quantitative, descriptive research design was adopted. The non-probability convenient sampling technique was used to select 100 samples. The married women who were in the age group of 20 – 60 years and who were available during the data collection period were included as samples and those who could not understand Tamil or English were excluded. Formal permission was obtained and the data was collected through a structured interview method. The study was approved by Ethical Committee in Hindu Mission Institution, West Tambaram and all ethical principles were followed in the study. Informed consent was obtained from each sample after giving all information about the study. The collected data were analyzed by descriptive and inferential statistics.

Description of Tool

The tool was developed by the researcher after reviewing series of literatures and in consultation with experts. It includes 2 sections,

Section A

Demographic variables included age, education, occupation, religion, type of family and residence and back ground variables like diet, age at marriage, parity and source of information.

Section B

A check list was used to assess the risk factors of breast cancer among married women aged 20-60 years. It included 12 dichotomous type questions regarding previous and family history of cancer, age, BMI, diet, life style and medical history. Each question scored as positive as '1' and negative as '0 'and summed as no risk (0), low risk (1-4), moderate risk (5-8) and high risk (9-12).

RESULTS

Among 100 participants, majority of the women (39%) belonged to the age group of 31-40 years, 30% had completed their college level of education, 89% were homemakers, 73 % were Hindus, 68% were in nuclear family and 58% resided in urban area. With regards to back ground variables, 94% belonged to non-vegetarian, 60% were aged between 25-30 years at the time of marriage, 44% belonged to multiparity and 73% received information through health personnel and it's shown in table I.

According to first objective to assess the level of risk factors on Breast cancer among married women, 70% women had no risk, 25 % were in low risk, 5% only were in moderate risk and no one was in high-risk group, it depicted in figure II. Regarding the second objective, to associate the level of risk factors of breast cancer among married women with their selected demographic and background variables had significant association with risk factors like age, educational status and parity with P value 0.05% and revealed in table 2. There was no significant association with the other demographic variables like religion, occupation, diet, type of family age at marriage, source of information and residence.

Table 1. Demographic and Background Details of Married Women. **N=100**

S.NO	DEMOGRAPHIC VARIABLES		FREQUENCY (%)
1	AGE (Years)	20-30	15
		31-40	39
		41-50	20
		51-60	26
2	EDUCATION	No formal education	15

		Primary	17
		High school	24
		Higher secondary	14
		Graduate	30
3	OCCUPATION	Working	11
		Home maker	89
4	RELIGION	Hindu	73
		Muslim	10
		Christian	17
5	TYPE OF FAMILY	Joint family	32
		Nuclear family	68
6	RESIDENCE	Urban	58
		Rural	42
7	DIET	Vegetarian	6
		Non-vegetarian	94
8	AGE AT MARRIAGE	< 20	5
		20-25	27
		25-30	60
		30-35	8
		>35	0
9	PARITY	Nulliparity	33
		Single parity	23
		Multiparity	44
10	SOURCE OF INFORMATION ON BREAST CANCER	Mass Media	9
		Health Personnel	73
		Others	18

Table 2: Association between Level of risk factors of breast cancer among married women with selected demographic and background variables ****p<0.05, S – Significant**

S. No	Demographic Variables	Level of Risk Factors						$\chi 2$	P Value 0.05 %
		No	%	Low	%	Moderate	%		
1	**Age (Years)**							60.53	df = 6 12.59 ** S
	20-30	15	21.4	0	0	0	0		
	31-40	37	53	2	8	0	0		
	41-50	15	21.4	4	16	1	20		
	51-60	3	4.2	19	76	4	80		
2	**Educational status**							35.07	df = 8 15.51 ** S
	No formal education	4	6	8	32	3	60		
	Primary education	8	11.4	7	28	2	40		
	High school	18	26	6	24	0	0		
	Higher Secondary	10	14.2	4	16	0	0		
	Graduate	30	43	0	0	0	0		
3	**Parity**							30.99	df = 4 9.49 ** S
	Nulliparity	12	17	17	68	4	80		
	Single Parity	20	29	3	12	0	0		
	Multiparity	38	54	5	20	1	20		

Figure 1: Risk factors of Breast cancer of Women

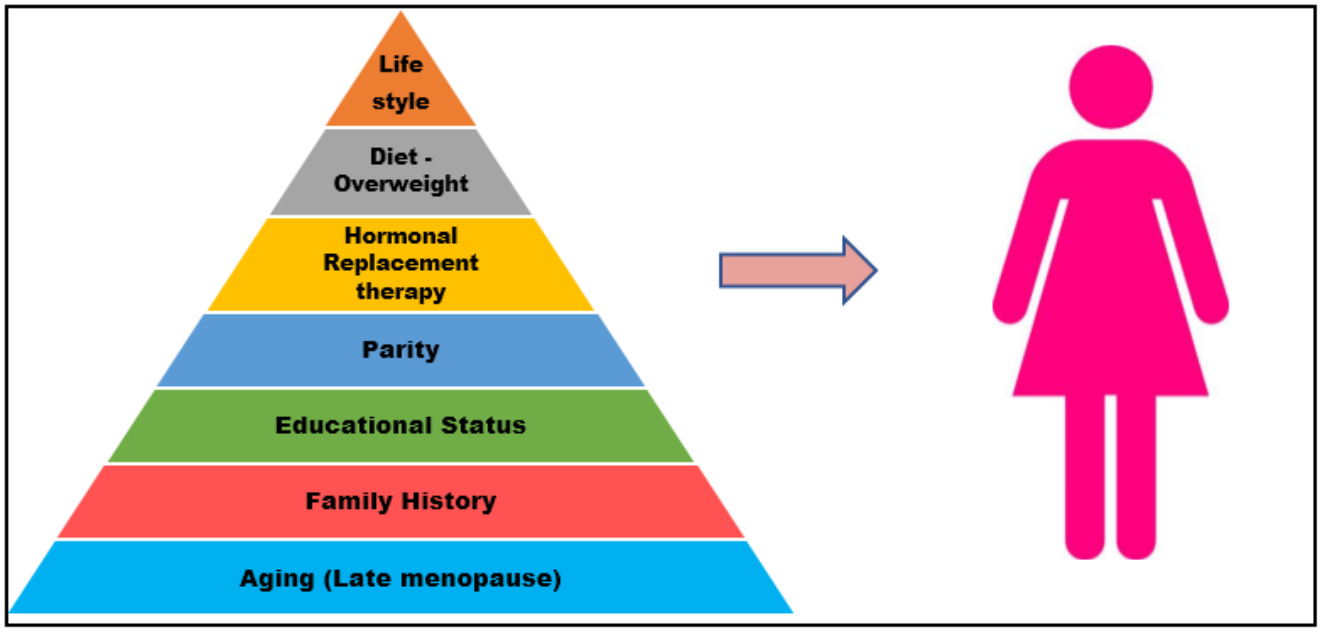
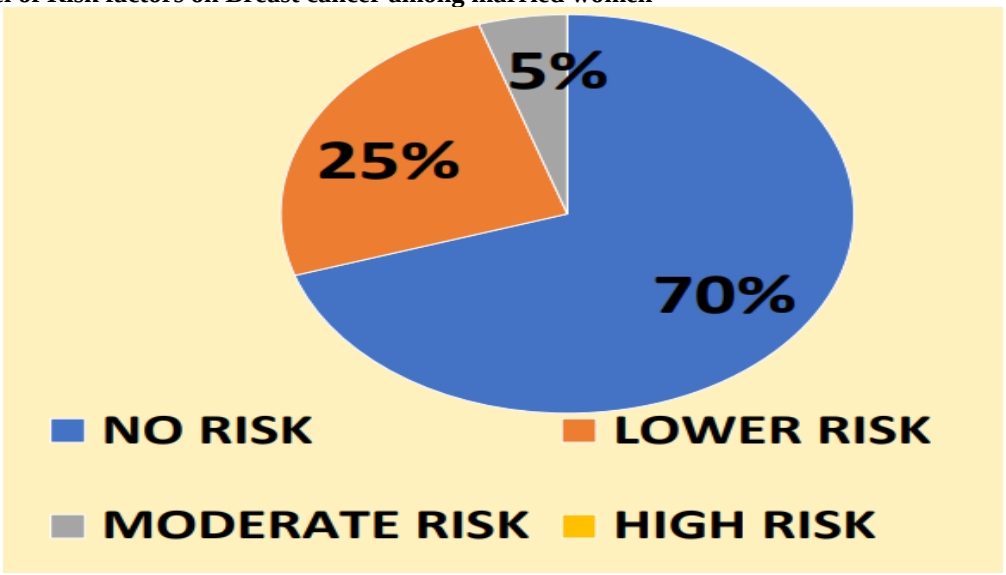


Figure II: Level of Risk factors on Breast cancer among married women



DISCUSSION

To prevent cancer burden in worldwide, the health care professionals take effort to increase awareness in preventive aspects and reduce the stigma of breast cancer through educational efforts with patients and their families. In the present study, 70 % had no risk, 25% were in lower risk and 5% only in moderate risk. Similar study conducted in Mumbai among 1,158 women identified that 15.5% of the women had at least one risk factor for breast cancer. The prevalence of individual risk factors was below 6%, and the results suggested that prevalence of the risk factors for breast cancer is not very high, but the increasing trend of breast cancer in the country makes it imperative to introduce population-based screening for all women with or without risk factor [18].

In other study, Mia et al., (2019) identified that, combined menopausal hormone use, increased weight and history of benign breast disease were risk factors for symptom-detected cancers may ease to identify women and to facilitate for early detection [19]. In cross-sectional

study conducted in Iran revealed that, out of 770 women 287 (37.3%) were illiterate and 482 (62.7%) were literate. The logistic regression showed that, literacy was an important contributing factor for breast cancer prevention behavior. The findings suggested that, in order to improve women's health and breast cancer outcomes, providing equal educational opportunities for women seems necessary [20].

Regarding association with risk factors in present study, the following demographic and background variables like age, educational status, and parity had significant association with P value 0.05%. In age, 51-60 years 80% had moderate risk and 76 % had low risk to develop breast cancer when compared to other age categories and also the lower risk starts from the age of above 30 -40 years itself stating that the women starting from early menopause stage itself is one of the main risk factors. Laamiri FZ ., (2015) revealed the similar findings in family history with first degree, use of oral contraceptives, early age at menarche and late menopause were positively associated with breast cancer in all the ages. The risk of breast cancer associated only with a family history of breast cancer in 34-44 years of age and in 45 years or older, the influencing factors are family history with first degree, use of oral contraceptives late menopause. This study also rather in favors of positive association between hormonal factors with breast cancer, confirms the protective role of multiparity and lactation [21].

In current study, findings, the moderate risk factors of 80% & 20% in nulliparity and single parity women and around 50% of women had no risk factors in multi parity. It shows that women had multiparity continued her breast-feeding practices of 5 years aids to reduce the risk factors of breast cancer whereas in single and nulliparity the chance of breast feeding discontinued before one year and hormone imbalance is major risk factor for the moderate risk. Opdahl S (2011) conducted a cohort study in Norwegian found that, overweight and nulliparity may intensify each other's effect on breast cancer risk among women (attributable proportion 0.21, 95% CI 0.04–0.39). Pregnancy may reduce the risk of breast cancer through induction of persistent changes of the mammary gland that make the breast less susceptible to carcinogenic factors [7]**.**

In present study, the 60% women who are all in no formal education and 40% completed primary education had moderate risk and in graduate level even no one in low risk factors. It reveals that, as education increases the self-awareness related to health also increases it helps to avoid risk factors. The similar findings found in case control study conducted in Karnataka revealed that the most prevalent age-group was 41–50 years and significant association observed between breast cancer and education especially more in illiterates, occupation, socioeconomic status, attainment of menopause, age at first child & body mass index ($p<0.05$) [22].

RECOMMENDATIONS

- A similar study to be conducted in a larger sample size for better generalization.
- A similar study can be conducted as comparative study in rural and urban women.
- A similar study can be conducted as experimental design by implementing video assisted teaching program and behavior modification program for high-risk women.

CONCLUSION

The findings of the study revealed that, risk factor of breast cancer among married women found that 70 % had no risk, 25 % were in low risk, 5% only were in moderate risk group and no one was in high-risk group. The identification of risk factors alerts that, all the women to go for normal breast cancer screening will be promotes women's welfare. The theme of World Cancer Day 2021 is "I Am and I Will" campaign shows us, the impact of our actions on everyone around us, within our neighbors, communities and cities. Apart from this, our actions are also being felt across borders and oceans. Hence all health care professionals, should focus on early screening and create awareness among public to reduce the incidence of high-risk cases and early management to promotes 100% curability. The public and community health nurses take initiation to mass awareness, screening program and early identification surely makes, to achieve a healthier, brighter world without breast cancer.

Ethical Approval:

This study was approved by the Institutional Ethics Committee, Hindu Mission College of Nursing, Chennai.

Conflict of Interest: None

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