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Effect of Family Income on Knowledge, Attitude and Practices Regarding Breast Cancer and its Screening Methods Amongst Women of Lahore, Pakistan

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ABSTRACT

The study aimed to examine the effects of total family income of a household on the knowledge, attitude and practices regarding breast cancer and its screening methods amongst women of Lahore. A cross-sectional survey was conducted on 504 randomly selected women using a self-administered, structured questionnaire. The study suggested a direct relationship between the household income and the knowledge of women. Mean knowledge was 37.8% in the group having an income of PKR<10,000. The groups having incomes PKR10,000-30,000, PKR30,000-60,000 and PKR>60,000 had mean knowledge 44.4%, 62.7% and 66.47% respectively. Attitudes and practices were independent of the income. However, participants with a monthly income of PKR>10,000 had a general trend of better breast self-exam practices. All the groups almost equally realized the importance of performing BSE, although, the overall practice score was low (35.4%). Findings suggested that overall knowledge was relatively weak in all participants, being lowest in the low-income groups.

INTRODUCTION

Breast cancer is the most frequently diagnosed cancer among women worldwide and is the most common cancer overall only second to lung cancer (Ferlay *et al*., 2010) There is a higher incidence rate of breast cancer is Western European countries as compared to that of Eastern Asian or African countries (Jacques *et al*., 2010; DeSantis *et al*., 2011). However, there is a significantly higher survival rate of the patients diagnosed with the disease in Western European countries compared to that of Asian or African counties(Ma and Jemal, 2013). This is attributed to better screening and treatment facilities in the developed world. There are several contributing risk factors to the disease. Well-established risk factors include;

older age, family history of the disease, exposure to radiation, use of oral contraceptive pills, first childbirth at an age greater than 30 years and irregular menstrual cycles among others (McPherson *et al*., 2000). A survey of the U.S. population showed that 47% of the total reported cases indicated a strong connection to these established risk factors (Madigan *et al*., 1995). Studies showed a huge gap between the acceptance of the importance of BSE education and the actual awareness of the procedures and methods of BSE in the masses. This problem is particularly true for Asian and African countries (Montazeri *et al*., 2008; Parsa and Kandiah, 2005; Sim *et al*., 2009). The lack of knowledge, however, did not always present as the reason for the lack of BSE practice. Studies among the nurses of Lagos, Nigeria; school teachers of Buraidah, Saudia and lady health workers of Tehran, Iran suggested that regardless of women being educated in the field of science, they had little knowledge of the breast cancer screening methods (Odusanya, 2001; Dandash and Al-Mohaimeed, 2007; Haji-Mahmoodi *et al*., 2002).

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Religious misconceptions, social pressures, cultural barriers, lack of facilities and misguided beliefs contribute towards the lack of breast cancer screening efforts and delayed help-seeking attitudes of a lot of ethnic groups in different countries (Azaiza, 2006; Flórez *et al.*, 2009; Lannin *et al.*, 2002; Mitchell *et al.*, 2002; Underwood, Shaikha *et al.*, 1998). Older women, who are at a greater risk of developing the disease (Colditz and Rosner, 2000), are also surprisingly, among the groups who are least aware of the identifying symptoms. Limited statistical data is available for the incidence rate of the disease in Pakistan. A 1995-1997 survey shows that breast cancer is not only the most commonly reported cancer in Pakistani females but, Pakistani females also show a significantly higher incidence rate of the disease compared to any other Asian country except for Israel (Bhurgri *et al.*, 2000). The average reported age of the disease occurrence is also about 10 years younger in the Asian (and hence Pakistani) population compared to any other in the world (Agarwal *et al.*, 2007).

Breast Self-Exam and other screening methods are directly related to early detection which leads to better survival rate (Jatoi, 1999; Tabar *et al.*, 1985). The role of education in minimizing the mortality rate of the disease cannot be stressed enough. There have not been such studies in for the population of Lahore. The effect of household income on the knowledge and practices has also not been explored yet. Since household income directly influences the access to health care facilities in developing countries (Peters *et al.*, 2008) like Pakistan, it is of value to study the influence it can have on knowledge attitude and practices regarding breast cancer and its screening methods.

MATERIALS AND METHODS

A community based descriptive cross-sectional study was carried out to assess the knowledge, attitude and practices regarding breast cancer and its screening methods in women of Lahore, Pakistan. The study was completed over a period of 5 months from February 2016 to June 2016. Effect of the total household income on the knowledge, attitude and practices of 550 women selected by non-probability convenient sampling, between the ages of 18 and 60 with no prior history of breast cancer were assessed using a self-administered questionnaire (in English and Urdu). The participants signed an informed consent before taking part in the study

The participants were divided into four socio-economic groups; those with the monthly household income of less than PKR 10,000 (class 1), income PKR 10,000-30,000 (Class2), income PKR 30,000- 60,000 (Class3) and income more than PKR 60,000 (Class4). The questionnaire collected information regarding the demographic characteristics, knowledge about what breast cancer is, its risk factors, knowledge about breast self-exam, practices regarding the frequency of BSE and attitude towards the prevention of the disease.

The score for knowledge, attitude and practices were calculated by giving 1 for a 'yes' answer and a 0 for both a 'no' and a 'don't know' answer. The Likert scale score was assigned as 5 for 'strongly agree', 4 for 'agree', 3 for 'neither agree nor disagree', 2 for 'disagree' and 1 for 'strongly disagree'. The total score for knowledge, attitude and practices was then calculated for each participant and an average knowledge, attitude and practice score was calculated for all participants.

Data was analyzed using SPSS version 22.0. Descriptive statistics was applied for the analysis of demographic data and for the association of demographics with the mean scores of knowledge, attitude and practices, chi- square test was performed. Chi- squared probability value equal to or less than 0.05 was considered as significant.

RESULTS

The questionnaire was given to 550 women, of which 504 returned it with all questions answered, giving a response rate of 91.6%.

Socio-demographic characteristics of study participants

Mean age of the participants was 31.5 years with the age ranging from 18 years to 60 years. 53% of the women were never married, while 47% were at least married once. 6.9% of the women belonged to the socio-economic class 1, with the monthly household income less than PKR 10,000, 17.5% of Class2, 29.8% of Class3 and 45.8% of Class4. 13.7% women had no formal education while 4% had a primary education. 6% have had a matriculation degree, 14.3% a college degree and 62.1% had at least an undergrad degree. Breast cancer family history was found in 25.2% of the women.

Knowledge about breast cancer

The mean knowledge scores were 37.8%, 44.4%, 62.7% and 66.47% in socio-economic classes 1, 2, 3 and 4. The overall knowledge score in all 504 participants was only 52.9%. More than 90% people from all four classes knew what breast cancer was and that it can be treated but only 68%, 71%, 76% and 85.4% from classes 1,2,3 and 4 knew that a Breast Self-Exam can decrease the mortality rate by early diagnosis. However, even fewer people knew how to perform a BSE with only 22% from Class1, 48% from Class2, 52% from Class3 and 57.2% from Class4. 33% women from class 1 knew what a mammogram was, 48% from Class2, 46.5% from Class 3and 52% from Class4.

Knowledge about breast cancer risk factors

Breastfeeding children decreasing the risk of breast cancer was most commonly known among all other risk factors with 84% from class 1, 71.6% from class 2, 53% from class 3 and 29% from class 4 knowing about it. Use of oral contraceptives being a risk factor was known in 34%, 52%, 63.5% and 82% of the people from classes 1, 2, 3 and 4 respectively. Age and Sun radiations as risk factors were also comparatively well-known with 49% and 32% from class 1, 53% and 69% from class 2, 82% and 75.7% from class 3 and 62.3% and 78.4% from class 4 knowing about them. Age of start of menstrual cycle and age at the birth of

the first child as risk factors were only known in about 50% or fewer people in all classes. Obesity as a risk factor was also not well known, with only 26% participants from class 1, 56% from class 2, 66% from class 3 and 42% from class 4 knowing about it.

Attitudes and practices towards breast cancer screening

The attitude scores for Classes 1, 2, 3 and 4 were found to be 84.85%, 90.68%, 89.8% and 87.6% respectively. On the other hand, the practice scores were 32.1%, 37%, 36.42% and 36.1% for the four classes. Less than half of the participants had ever performed a Breast Self-Exam from all four classes, with 45.7% in class 1, 50% in class 2, 43.2% in class 3 and 34.8% in class 4. Of these, very few people performed monthly breast self-exams with only 5.7% from class 1, 6.8% from class 2, 6.1% from class 3 and 6% from class 4. Only 8.6% of the participants in class 1 ever had a mammogram, 12.5% from class 2, 12.2% from class 3 and 7.7% from class 4. 91%, 93%, 95.3% and 97.2% women from classes 1, 2, 3 and 4 were willing to perform monthly BSE if they were taught properly.

Table 1: Frequency distribution of the demographic characteristics.

Variable		Frequency (%)
Age	Mean	31.5
	Range	18-60
Marital status	Ever married	237 (47)
	Never married	267 (53)
House income	Less than PKR 10,000	35 (6.9)
	PKR 10,000-30,000	88 (17.5)
	PKR 30,000-60,000	150 (29.8)
	More than PKR 60,000	231 (45.8)
Level of Education	No formal education	69 (13.7)
	Primary education	20 (4)
	Matriculation	30 (6)
	College	72 (14.3)
	University	313 (62.1)
Family history of disease	Yes	127 (25.2)
	No	377 (74.8)

Table 2: Mean Knowledge, Attitude and Practice scores.

Variable	Class 1 (%)	Class 2 (%)	Class 3 (%)	Class 4 (%)	Mean (%)	P value
Knowledge score	37.8	44.4	62.7	66.47	52.9	0.000
Attitude score	84.85	90.68	89.8	87.6	88.23	0.000
Practice score	32.1	37	36.42	36.1	35.4	0.882

Table 3: Attitudes and Practices of the women regarding breast cancer screening.

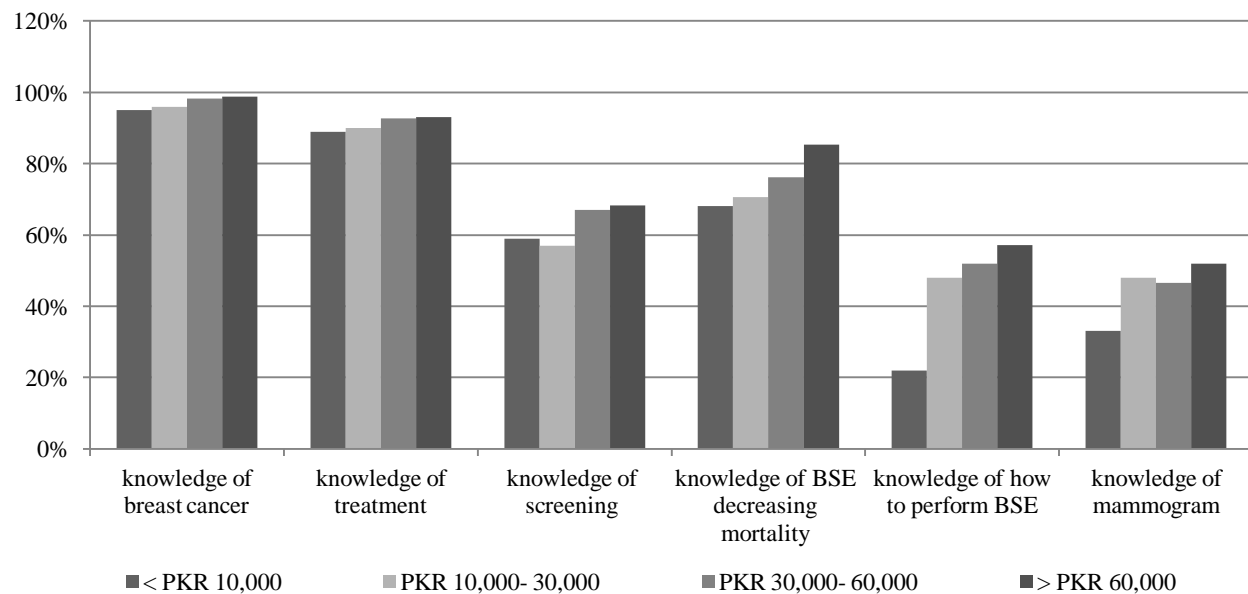| Variable	Percent people
People who performed a BSE every month	
Class 1	5.7
Class 2	6.8
Class 3	6.1
Class 4	6
Women who ever performed a BSE	
Class 1	45.7
Class 2	50
Class 3	43.2
Class 4	34.8
Women who said they will perform regular BSE if theyknew how	
Class 1	91
Class 2	93
Class 3	95.3
Class 4	97.2
Women who ever had a mammogram	
Class 1	8.6
Class 2	12.5
Class 3	12.2
Class 4	7.7

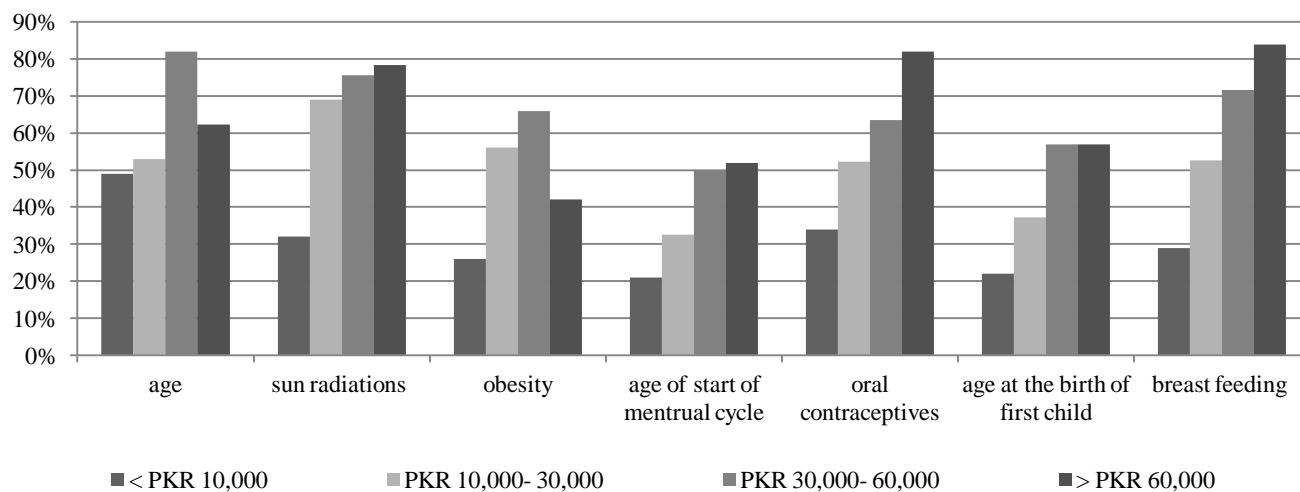**Fig. 1:** Knowledge of breast cancer.

Fig. 2: Knowledge of breast cancer risk factors.

DISCUSSION

The majority of the participants have had some form of a formal education and about half of total belonged to the group having a monthly household income of more than PKR 60,000. The mean knowledge about breast cancer screening and its risk factors was insufficient in all the participants (Table 2). Previous studies have shown a similar lack of knowledge in Asian women (Ahmed *et al.*, 2006; Choudhry *et al.*, 1998). However, there was a statistically significant difference in the knowledge of the women in all four groups with the amount of knowledge they had about

breast cancer, its screening and risk factors increasing as the monthly household income increased. Similar cases have been reported for most Asian and African countries(Rashidi and Rajaram, 2000; Haji-Mahmoodi *et al.*, 2002; Okobia *et al.*, 2006; Heidari *et al.*, 2008).

Most of the people knew what breast cancer was and that it can be treated but fewer people knew about breast cancer screening (Figure 3). Knowledge about BSE decreasing the mortality rate increased with the increase in the socio-economic class; however, very few knew exactly how to perform a BSE. Knowledge of the risk factors of breast cancer showed an

increasing trend with an increase in the monthly household income (Figure 2). Age of the start of the menstrual cycle and age at the time of the birth of a first child were the risk factors women knew the least about. Increasing age and avoiding breast feeding increasing the chances of getting breast cancer were most commonly known (Abedzadeh *et al.*, 2003; Amin *et al.*, 2009; Grunfeld *et al.*, 2002). The attitude and practices regarding breast cancer seemed to be independent of the monthly household income and were low on average (Table 2), this is in line with previous findings (Odusanya, 2001). The attitude scores of the four groups were significantly different but there was no general trend towards increasing or decreasing monthly income (O'Malley *et al.*, 2001; Lannin *et al.*, 2002; Zapka *et al.*, 1989). Participants who were educated on how to perform a BSE from all 4 classes had strong intentions of practicing it on regular basis from then onwards.

CONCLUSION

The study concludes that there is a lack of awareness of breast cancer screening methods and risk factors in women of Lahore. The lack of knowledge is particularly true for women belonging to low socio-economic status., the study also showed that the women who did know about the risks of breast cancer and screening decreasing mortality rates made little or no effort to learn to perform the screening tests. After being reminded and being taught the screening procedures most women did show the willingness and intent to perform regular breast self-exams. The study hence highlights not only the importance of educating women of all socio-economic classes on such health issues but also emphasizes the importance of practical teaching and constant reminders through media led education campaigns, medical seminars, specific counseling and other methods.

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CONFLICT OF INTEREST

The authors have no conflict of interest.

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