ORIGINAL ARTICLE

Evaluation of the level of knowledge of Egyptian women of breast cancer and its risk factors. A cross sectional study

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Key words

Breast cancer • Cross sectional study • Hormonal therapy • Risk Factors, X ray

Summary

Breast cancer is considered the leading cause of cancer death among females in economically developing countries. Prevalence of breast carcinoma is high in Egypt and the cases of breast cancer constitute 29% of cancer cases treated at the national cancer institute. This study aimed at exploring the level of knowledge of Egyptian females of breast cancer and its risk factors. An interview questionnaire with 22 questions about breast cancer was developed. This questionnaire was previously published as a part of the German multicentre DACH study. A total of 600 female subjects that attended primary health care centres were enrolled in our study. The majority were located in Cairo with the mean age of 40.5 ± 11.0. Most of our studied sample (94%) has heard about breast cancer as a disease. TV and radio were the main sources of knowledge about the disease (60%). The level of knowledge about breast cancer was limited in 80% of the subjects. Younger age subjects had a higher level of knowledge about breast cancer compared to older subjects with no significant difference statistically. The grade of knowledge about breast cancer was higher among highly educated subjects compared to less educated subjects with significant difference statistically. The highest known risk factors of breast cancer were exposure to X ray (79.5%), hormonal therapy (75.7%) and previous breast cancer disease (70.8%). This study clearly illustrates the need for a health education program directed to Egyptian females to improve the knowledge of breast cancer.

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Introduction

Globally breast cancer is the most diagnosed cancer and the leading cause of cancer death among females, accounting for 23% of the total cancer cases and 14% of the cancer deaths. Breast cancer is now also the leading cause of cancer death among females in economically developing countries [1]. In Egypt the age adjusted rate of breast cancer is 49.6 per 100.000 population and the median age at diagnosis is one decade younger than European countries and most patients are pre menopausal [2, 3].

Breast cancer is the most common cancer among Arab countries with young age at presentation. Locally advanced disease is very common and total mastectomy is most commonly used for treatment [4].

Several factors are known to affect the risk of development of breast cancer. Age, familial and reproductive factors are the strongest risk factors. Lifestyle and hormonal risk factors have also been identified [5].

Several studies have reported that the level of knowledge about breast cancer can affect the screening practices for early stage detection. Low level of awareness of breast cancer is associated with poor screening practices [6, 7]. Recent researches suggest that the women's knowledge of risk factors and risk perception is limited [8, 9]. Knowledge of risk factors and perception of personal risk are important factors for motivation of people for the prevention, detection and management of the disease [5].

This research shows how much women in Egypt know about breast cancer as regards incidence, risk factors and prevention.

Methodology

An interview questionnaire with 22 questions about breast cancer was developed. This questionnaire was previously published as a part of the German multicentre DACH study at the Department of Gynecology and Obstetrics, University of Düsseldorf, Germany [9]. The questionnaire included data pertaining age, place of residence in the last 10 years, family status, graduation, number of children and occupation, together with awareness about breast cancer incidence and risk factors. Our questionnaire was formulated according to our objectives and was tested on 5 women. Pilot study was of help in formulating and structuring the questions in slang Arabic language.

The questionnaire was given to 600 women visiting the primary health care clinics.

The participation rate was 84% among women attending the primary health care out patients clinics. All participants signed an informed consent after explaining them the objective of the study. Thereafter, participants were subjected to interview questionnaire which consisted of 3 sections; demographic data, knowledge about breast cancer prevalence and knowledge about breast cancer risk factors.

Interviewed women were asked about their opinion about breast cancer risk in general and if they felt that their level of information regarding breast cancer was sufficient. They were also asked about risk factor e.g. date of menarche and menopause, age, hormonal therapy, oral contraceptives and family history of breast cancer. As regard family history of breast cancer, women were asked for assessment of their own risk in relation to this factor. Special emphasis was made on the source of knowledge about breast cancer risk factors.

Statistical methods

First, the following descriptive analysis was done: frequency, percent, mean, standard deviation. Thereafter, comparisons between between grade of knowledge about breast cancer and studied demographic variables were done using Pearson's Chi square test for categorical variables. Level of significance was set at $p < 0.05$. All data variables were encoded and computerized. Data entry and statistical analysis were performed using the Statistical Package for Social Science (SPSS) version 18.0 (SPSS Inc., Chicago, Illinois).

Results

A total of 600 female subjects were enrolled in our study. The majority were located in Cairo (urban area) 69%. Almost 47% of the studied subjects have high education. Our subjects were mostly married 74.5%. House wives and clerks were the most frequent occupations (Tab. I).

Most of our studied sample (94%) has heard about breast cancer as a disease. TV and radio were the main sources of knowledge about the disease (60%). The level of knowledge about breast cancer was limited in 80% of the subjects and only 13.3% of the subjects thought they have good knowledge about the disease (Tab. II).

Subjects that correctly identified the correct prevalence of breast cancer in the Egyptian female population (above 10%) were only 21% of the studied sample. While one third of the females reported that the prevalence of breast cancer in Egypt ranges from 1 to 5%.

The highest known risk factors of breast cancer among the studied sample were exposure to X ray (79.5%), hormonal therapy (75.7%) and previous breast cancer disease (70.8%). While the least known risk factors of breast cancer were age at menarche, duration of lactation and nulliparity (Tab. III). Almost half of the studied

Tab. I. Demographic characteristics of studied subjects.

Categorical variables	No.	%
Residence		
Rural	186	31.0
Urban (Cairo)	414	69.0
Educational level		
Illiterate	78	13.0
Read write	29	4.8
Primary to secondary education	213	35.6
High education	280	46.7
Marital status		
Single	71	11.8
Married	447	**74.5**
Divorced	26	4.3
Widow	56	9.3
Occupation		
House wife	209	34.8
Professional work	103	17.2
Clerk work	205	34.2
Manual worker	59	9.9
Farmer	5	0.8
Student	19	3.2
Quantitative variable	**Mean SD**	**Range**
Age	40.5 ± 11.0	16-75 years

Tab. II. Distribution of knowledge about breast cancer, source of knowledge and grade of knowledge.

Knowledge about breast cancer	No.	%
Have you heard about breast cancer?		
Yes	564	94.0
No	36	6.0
Source of knowledge about breast cancer		
TV and radio	336	59.6
Newspapers	37	6.5
High school or university	23	4.1
Medical person or book	35	6.2
Multiple sources	133	23.6
Grade of knowledge about breast cancer		
No knowledge	36	6.0
Limited	475	79.2
Simple	86	14.3
Enough	3	0.5
Do think you have enough knowledge about breast cancer?		
Yes	80	13.3
No	520	86.7

Tab. III. Distribution of knowledge about risk factors of Breast Cancer.

Distribution of knowledge	No.	%
Age is a risk factor for breast cancer	270	45.0
Age at menarche is a risk factor	169	28.2
Age at first labour	190	31.7
Age at menopause	275	45.8
Nulliparity	232	38.7
Duration of lactation	237	39.5
Use of oral contraceptive pills	348	58.0
Hormonal replacement therapy	454	75.7
Previous breast cancer	425	70.8
Exposure to X ray	477	79.5
Hereditary disease	288	48.0

subjects knew that age per se is a risk factor for breast caner while less than one third of the subjects identified correctly age at menarche and age at first labour as a risk factor for breast cancer (Tab. III).

As regards positivity of family history it was found that 29% of the studied females have declared having a positive family history of breast cancer. The astonishing finding is that only 36% of those with positive family history said that they could get the disease in the future.

Comparing the level of knowledge about breast cancer and demographic variables of the studied subjects revealed that younger age subjects had a higher level of knowledge about breast cancer compared to older subjects with no significant difference statistically. The grade of knowledge about breast cancer is higher among highly educated subjects compared to less educated subjects and the difference is highly significant statistically (Tab. IV).

Also subjects working in clerk work and students had a higher knowledge compared to other professions and the difference is highly significant statistically. Single subjects had a higher knowledge compared to married and divorced subjects with no significant difference statistically. It was found that subjects residing in urban areas had a higher knowledge about breast cancer compared to subjects residing in rural areas.

Subjects who had a family history for the presence of a breast cancer in the family had a higher level of knowledge compared to subjects with no family history and the difference is highly significant statistically (Tab. IV).

As regards the knowledge of the studied subjects about the cure of the disease it was found that 230 subjects (38.3%) reported that breast cancer is incurable. The level of education affects the knowledge about curability of breast cancer. Highly educated females reported a higher percentage of curability of the disease (65%) compared to (52.9%) among less educated females and the difference was significant statistically.

Tab. IV. Comparison between grade of knowledge about breast cancer and studied demographic variables.

	Simple or enough knowledge No. (%)	χ^2	P
Age			
< 40 N = 225	37 (16.4)	1.7	0.4
> = 40 N = 375	52 (13.9)		
Education			
Highly educated N = 443	80 (18.1)	51.4	0.000**
Secondary education or less N = 157	9 (5.7)		
Marital status			
Single N = 71	16 (22.5)	8.6	0.2
Married N = 447	64 (14.3)		
Divorced or widow N = 82	9 (10.9)		
Occupation			
House wives N = 209	12 (5.7)		
Manual worker N = 59	9 (15.3)	36.0	0.000**
Professional N = 103	13 (12.6)		
Clerk work N = 205	50 (24.4)		
Farmer N = 5	0 (0)		
Student N = 19	5 (26.3)		
Residence			
Rural N = 186	15 (8.1)	11.9	0.003**
Urban N = 414	74 (17.9)		
Family History of Breast Cancer			
No N =426	47 (11.0)	24.5	0.000**
Yes N = 174	42 (24.1)		

** P < 0.01 Highly significant

Discussion

Prevalence of breast carcinoma is high in Egypt and the cases of breast cancer constitute 29% of cancer cases treated at the national cancer institute. It is considered the most common cancer among Egyptian females representing 18.9% of total cancer cases [3].

With the high prevalence of cases of breast cancer in Egypt yet they are detected very late. A study reported that late representation is a common feature of breast cancer patients as T1, T2, T3 and T4 patients were 1.2, 30, 26.4 and 42.4% respectively [10].

Another study done for screening of a targeted group aged 35-64 years living in a geographical area in Cairo found that detection rate of 8 per 1000 cases of breast cancer upon first screening. This indicates that many Egyptian women who had early but palpable breast cancer fail to seek medical advice till late stages [11].

In our study it was found that 85% of the participants had no knowledge or limited knowledge about breast cancer this highly correlates with a previous study done on 122 working females at Ain Shams University hospitals in Egypt were only 10.6% of the participants had satisfactory knowledge about the disease [12].

Our findings of no knowledge or poor knowledge of breast cancer among Egyptian females agrees with Okobia study who found out that there were poor knowledge of breast cancer among 1000 community dwelling Nigerian women. He attributed the late presentation in 70% of the cases of breast cancer in Nigeria to this poor knowledge [6].

In our study 38.3% of the studied females reported that it is an incurable disease this highly agrees with Okobia who reported that 46% of his Nigerian participants denied the curability of the disease even if detected early [6].

It was found that 29% of our studied sample reported a positive family history of breast cancer this agrees with Pohls study who reported 23.6% of this patients had at least one case with breast cancer in the family [9]. While it was reported in his study that 75.1% of those who had a family history stated that they had increased risk because of that, only 36.2% in our study with positive family history reported increased risk of breast cancer development.
Almost 19% of highly educated females had enough knowledge about breast cancer and this highly agrees with a study done in Malaysia where they reported a low to moderate knowledge about breast cancer among secondary school teachers [13].
Besides higher knowledge about breast cancer among the educated females in our sample it was found that a higher percentage of educated subjects knew about curability of the disease. This finding agrees with several studies that reported the overall knowledge about cancer is dependent on the educational status [6, 9, 14].
Occupational status also affected the knowledge about breast cancer among the studied females. Those with clerk work and students were more knowledgeable about the disease. This finding agrees with a Saudi study where they reported the level of knowledge among Saudi females were low and it was dependent on occupational status [14].
Females in professional jobs seemed to have low level of knowledge about the disease as 12% reported to have enough knowledge about the disease. This concurs with Akhigbe study in Nigeria where he reported that even heath care workers who are expected to be a role model and educate the public had poor knowledge about risk factors of breast cancer [15].
In our study 39.5% of the participants reported that duration of lactation is a risk factor of breast cancer this is comparable to Pohls study where he reported that 37% of the respondents reported breast feeding as a risk factor. The least known risk factor of breast cancer among our participants was age at menarche this is also comparable to Pohls study [9].
Forty eight percent of our study subjects reported that it is a hereditary disease this is higher than the rate reported by school teachers in a Nigerian study where only 30% reported that positive family history is risk factor [16].
Three quarters of our study participants knew that hormonal replacement therapy is a risk factor for the development of breast cancer which is much higher rate than that reported by Pohls where 37.1% of his participants reported that use of hormonal contraceptive and HRT as risk factor for breast cancer [9]. This study could recommend the following:
1. Health education program should be launched nationwide to educate females about breast cancer and the curability of the disease if detected early.
2. The use of mass media as TV and radio could be the channel of health education and the programs should be directed to non educated females and housewives.
3. Young aged women and those with higher education level have recently shown a relevant use of the internet and the social networks websites, therefore those groups could improve their level of knowledge about the disease and preventive measures by the use of these media.

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