Journal of Applied Pharmaceutical Science Vol. 7 (02), pp. 142-146, February, 2017
Available online at http://www.japsonline.com
DOI: 10.7324/JAPS.2017.70219
ISSN 2231-3354 

Awareness and Perception of Breast Cancer among the Future Healthcare Providers of Ras Al Khaimah, United Arab Emirates

Syed Arman Rabbani[1*], Hala Mutasem[2], Ranin Abdul Naser[2], Yousra Hussein[2]

[1]Department of Clinical Pharmacy and Pharmacology, [2]RAK College of Pharmaceutical Sciences, RAK College of Pharmaceutical Sciences, RAK Medical and Health Sciences University, Ras Al Khaimah, United Arab Emirates.

ARTICLE INFO

Article history:
Received on: 26/10/2016
Accepted on: 07/12/2016
Available online: 27/02/2017

Key words:
Breast cancer, Awareness, Healthcare Providers, United Arab Emirates.

ABSTRACT

Breast cancer is the most common type of cancer and the most common cause of cancer-related mortality among women worldwide. Breast cancer represents the second leading cause of deaths among women in United Arab Emirates (UAE) and is a growing public health issue in the country. The present study was aimed at assessing the level of awareness and perception regarding breast cancer among the students of RAK Medical and Health Sciences University, Ras Al Khaimah, UAE. It was a cross sectional study in which a pre-tested and validated questionnaire regarding breast cancer was distributed to the students and their responses were recorded. Out of the total 200 students, majority (75.5%) were female. The mean knowledge score of medical students was highest 9.17 ± 1.54 out of a maximum of 10, as compared to 8.28 ± 2.39 of nursing students, 8.04 ± 1.68 of dental students and 7.68 ± 2.01 of pharmacy students. However, the mean perception score of pharmacy students was the highest 3.43 ± 1.29 out of a maximum of 5 when compared to 3.28 ± 1.30 of dental students and 3.07 ± 1..50 of medical students. Female students had higher level of knowledge regarding breast cancer as compared to male students. However, in case of perception both the female as well male students possessed similar level of perception. The level of knowledge and perception improved as the year of study advanced. The study also showed that as the level of knowledge regarding breast cancer increased the perception of the students towards breast cancer improved fortifying the importance of knowledge in changing perception of people towards diseases like breast cancer.

INTRODUCTION

Breast cancer is the most common cancer in females (Ferlay *et al*., 2008) and is the leading cause of cancer death in females worldwide (Jemal *et al*., 2011). According to World Health Organization over 5, 08,000 women died in 2011 as a result of breast cancer worldwide (WHO, 2013). Breast cancer is believed to be a disease of the developed world but nearly 50% of breast cancer cases and 58% of deaths occurred in less developed countries (Globocan, 2008). Breast cancer is a growing public health concern in the United Arab Emirates (UAE). It is the most common type of cancer in the country and tops the list of leading types of cancer (HAAD, 2013). Ageing is the main risk factor for breast cancer. Family history of breast cancer, obesity, early menstrual period, use of hormone replacement therapy and genetic mutations (Nelson *et al*., 2012; Anderson *et al*., 2014; Rosenberg and Levy- Schwartz *et al*., 2003) are the other factors which may lead to breast cancer. Early diagnosis and treatment of breast cancer improves prognosis. Routine screening plays a vital role in detection of cancer in its preclinical stage (Youlden *et al*., 2012). To detect early stages of cancer mammography is considered as the most appropriate screening method (Wong and Feussner, 1993). Breast cancer is more aggressive in younger age groups resulting in lower survival rates (Hill e*t al*., 2002), making early detection even more critical and stressing the need to elevate the breast cancer awareness among young females.

* *Corresponding Author*
E-mail: arman @ rakmhsu.ac.ae

An international survey conducted in university students showed that they had poor knowledge and awareness of breast cancer risk factors compared to older women (Peacey *et al*., 2006). The university students will be our future health care providers so it is of particular importance that they should have adequate knowledge and awareness regarding breast cancer. In turn these future health care providers will play a pivotal role in imparting this awareness to the society.

Most studies, previously, investigating the level of awareness and perception regarding breast cancer among university students concentrated on female students (Gwarzo *et al*., 2009; Ahmed, 2010; Sait *et al*., 2010; Al-Naggar *et al*., 2011). Our study included male students also as previous studies have shown lack of knowledge of the disease among men (Thomas, 2010). Breast cancer is not very common in men but well-informed men can play a vital role spreading awareness among the general public.

Limited number of studies have been published on the awareness of breast cancer among medical and health sciences university students. The paucity in research data on awareness of breast cancer in UAE prompted us to conduct this study determining the level of breast cancer awareness and perception among the students of Ras Al Khaimah (RAK) Medical and Health Sciences University, UAE.

METHODS

Study design

This cross sectional study was done to assess the level of awareness and perception towards breast cancer among the students of RAK Medical and Health Sciences University, Ras Al Khaimah, UAE.

Study population

All the students studying in medical, pharmacy, dental and nursing colleges of RAK Medical and Health Sciences University were considered for the study. Only those respondents who were available for data collection and who gave written informed consent were included in the study.

Sample size

To select the study participants, a convenience sampling technique was used. Of the 1100 students studying in the university, 220 students agreed to participate in the study and signed the informed consent form. Out of the total 220 students, 200 students completed and returned the questionnaires.

Study tool

A pretested and validated questionnaire comprising of three sections; Demographic Data, Awareness of breast cancer, Perception towards breast cancer was used to record the responses of the students. The questionnaire was pre-tested on 20 university students (not included in sample), and revised accordingly. Content validity of the questionnaire was determined by a panel of experts.

Data collection and analysis

The questionnaire was distributed to the students of all the four colleges of the university. The questionnaire consisted of 21 questions and was divided into three parts. First part was for demographic questions [6-item]. Second part was for assessing the participants' awareness regarding breast cancer [10-item], consisting of: 1) basic knowledge of breast cancer [2-item]; 2) knowledge of breast cancer risk factors [2-item]; 3) knowledge of breast cancer screening [4-item]; 4) knowledge of breast cancer treatment [1-item]. "Yes" response was given a score of one, and "No" was given a score of zero with possible scores ranging from 0-10. If the study respondent answers 9 to 10 questions "Yes" (≥90% - 100%) the knowledge was evaluated as "Excellent". If the study respondents answer 6 to 8 questions "Yes" (≥60% - <90%) the knowledge was "Good", 4 to 5 "Yes" answers (≥40% -<60%) was "Average" knowledge and if less than 3 "Yes" answers (<40%) the knowledge was considered "Poor".

The last part was for evaluating the perception towards breast cancer [5-item], where the respondents were queried on their opinion on social stigma related to breast cancer, approach towards treatment of breast cancer, loss of physical beauty resulting from treatment of breast cancer and quality of life with breast cancer. An "agree" response was scored as one, and "disagree" response was given a score of zero with possible scores ranging from 0-4. If the study respondents agreed with all questions the perception was assessed as "Excellent", agreed with 3 to 4 questions the perception was taken as "Good", 2 agree answers perception was taken as "Average" and if less than 2 agree answers the perception was considered "Poor". The data analysis was done by using SPSS 20.0 for Windows (SPSS Inc., Chicago, IL, USA). Descriptive statistics such as mean, mode and standard deviation were calculated. The Pearson chi-square test was used to test the significance of differences in percentages. A p-value of < 0.05 was considered to be statistically significant.

Ethical consideration

Approval for the study was obtained from the RAK Medical and Health Sciences University Research and Ethics Committee. Written informed consent was taken from all the study participants prior to the study. Data collected from the participants was preserved confidentially.

RESULTS

The socio-demographic characteristics of the respondents are shown in Table 1. Among the study population majority of the respondents were females (75.5%) and single (97.5%). About 47.5% of the respondents were pharmacy students as compared to 26.0% medical students. Majority of the study population (75.5%) belonged to Middle East countries comprising of 25.0% Syrian, 13.5% Emirati, 15.0% Egyptian, 11.5% Iraqi and 10.5%

Palestinian (Table 1). The mean knowledge and perception scores of the current study population were 8.20 ± 2.02 and 3.25 ± 1.38 respectively. Medical students had the highest mean knowledge score of 9.17 ± 1.54 out of a maximum of 10, as equated to 8.28 ± 2.39 of nursing students, 8.04 ± 1.68 of dental students and 7.68 ± 2.01 of pharmacy students.

However, the mean perception score of pharmacy students was the highest 3.43 ± 1.29 out of a maximum of 5 which was similar to 3.28 ± 1.30 of dental students and 3.07 ± 1.50 of medical students. Out of the 200 study participants, 79% of them had good to excellent knowledge regarding breast cancer whereas 69.5% of the study participants possessed good to excellent perception towards breast cancer. Among the female participants, 80.8% had good to excellent knowledge whereas 73.5% of the male study participants had good to excellent knowledge regarding breast cancer (Table 2). When it came to perception towards breast cancer the male participants (77.5%) fared well than the female participants (66.9%). Of the study participants belonging to Middle East countries, 76.2 % had good to excellent knowledge regarding breast cancer whereas 72.8% had good to excellent perception towards breast cancer (Table 3). The correlation between year of study and level of knowledge and perception was found to be positive and statistically significant with a p value of <0.001 (Table 4). The level of knowledge and level of perception are positively correlated and this correlation is statistically significant ((p<0.001) (Table 5).

Table 1: Distribution of Socio-Demographic Characteristics.

	Frequency (n=200)	Percentage (%)
Age		
18-19	67	33.5
20-21	49	24.5
22-23	61	30.5
24-25	20	10
>25	3	1.5
Gender		
Male	49	24.5
Female	151	75.5
College		
Pharmacy	95	47.5
Medical	52	26.0
Dental	21	10.5
Nursing	32	16.0
Year of study		
Year 1	57	28.5
Year 2	35	17.5
Year 3	35	17.5
Year 4	64	32.0
Year 5	09	4.5
Marital status		
Single	195	97.5
Married	5	2.5
Nationality		
Emirati	27	13.5
Syrian	50	25.0
Egyptian	30	15.0
Iraqi	23	11.5
Palestinian	21	10.5
Indian	29	14.5
Others	20	10.0

Table 2: Level of Knowledge and Perception vs. Gender, College and Year of Study.

		Level of Knowledge (%)				Level of Perception (%)			
		Ex	**Go**	**Av**	**Po**	**Ex**	**Go**	**Av**	**Po**
Gender	Male	15 (30.6)	21 (42.9)	9 (18.4)	15 (8.2)	15 (30.6)	23 (46.9)	5 (10.2)	6 (12.2)
	Female	68 (45.0)	54 (35.8)	25 (16.6)	4 (2.6)	35 (23.2)	66 (43.7)	37 (24.5)	13 (8.6)
College	Pharmacy	28 (29.5)	39 (41.1)	25 (26.3)	3 (3.2)	23 (24.2)	50 (52.6)	14 (14.7)	8 (8.4)
	Medical	34 (65.4)	14 (26.9)	3 (5.8)	1 (1.9)	13 (25.0)	20 (38.5)	13 (25.0)	6 (11.5)
	Dental	4 (19.0)	13 (61.9)	4 (19.0)	0 (0.0)	5 (23.8)	10 (47.6)	4 (19.0)	2 (9.5)
	Nursing	17 (53.1)	9 (28.1)	2 (6.2)	4 (12.5)	9 (28.1)	9 (28.1)	11 (34.4)	3 (9.4)
Year of Study	Year 1	6 (10.5)	9 (15.8)	32 (56.1)	10 (17.5)	9 (15.8)	17 (29.8)	21 (36.8)	10 (17.5)
	Year 2	4 (11.4)	16 (45.7)	13 (37.1)	2 (5.7)	4 (11.4)	12 (34.3)	12 (34.3)	7 (20.0)
	Year 3	13 (37.1)	16 (45.7)	5 (14.3)	1 (2.9)	10 (28.6)	18 (51.4)	6 (17.1)	1 (2.9)
	Year 4	39 (60.9)	16 (25)	8 (12.5)	1 (1.6)	24 (37.5)	24 (37.5)	12 (18.8)	4 (6.2)
	Year 5	5 (55.6)	4 (44.4)	0 (0.0)	0 (0.0)	6 (66.7)	2 (22.2)	1 (11.1)	0 (0.0)

Ex=Excellent, Go=Good, Av= Average, Po=Poor.

Table 3: Level of Knowledge and Perception vs. Nationality.

	Level of Knowledge (%)				Level of Perception (%)			
	Ex	**Go**	**Av**	**Po**	**Ex**	**Go**	**Av**	**Po**
Emirati	13 (48.1)	9 (33.3)	4 (14.8)	1 (3.7)	5(18.5)	11(40.7)	9 (33.3)	2(7.4)
Syrian	16 (32.0)	21 (42.0)	11 (22.0)	2 (4.0)	13(26.0)	24(48.0)	6(12.0)	7(14.0)
Egyptian	12 (40.0)	9 (30.0)	8 (26.7)	1 (3.3)	11(36.7)	10(33.3)	5(16.7)	4(13.3)
Iraqi	6 (26.1)	11 (47.8)	6 (26.0)	2 (9)	5(21.7)	14(60.9)	4(17.4)	0(0.0)
Palestinian	9 (42.9)	9 (42.9)	2 (9.5)	1 (4.8)	5(23.8)	12(57.1)	3(14.3)	1(4.8)
Indian	14 (48.3)	10 (34.5)	3 (10.3)	2 (6.9)	4(13.8)	12(41.4)	10(34.5)	3(10.3)
Others	13 (65.0)	6 (30.0)	1 (5.0)	0 (0.0)	7(35.0)	6(30.0)	5(25.0)	2(10.0)

Ex=Excellent, Go=Good, Av= Average, Po=Poor.

Table 4: Correlations between Year of Study, Knowledge and Perception Score of Respondents.

		Year of Study	**Knowledge Score**	**Perception Score**
Year of Study	Pearson Correlation	1	.557**	.342**
	Sig. (2-tailed)		.000	.000
	N	200	200	200
Knowledge Score	Pearson Correlation	.557**	1	.446**
	Sig. (2-tailed)	.000		.000
	N	200	200	200
Perception Score	Pearson Correlation	.342**	.446**	1
	Sig. (2-tailed)	.000	.000	
	N	200	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5: Correlations between Knowledge and Perception Score of Respondents.

		Knowledge Score	**Perception Score**
Knowledge Score	Pearson Correlation	1	.446**
	Sig. (2-tailed)		.000
	N	200	200
Perception Score	Pearson Correlation	.446**	1
	Sig. (2-tailed)	.000	
	N	200	200

**. Correlation is significant at the 0.01 level (2-tailed).

DISCUSSION

Our study demonstrated that more than half (79%) of our sample study had good to excellent knowledge and good to excellent perception (69.5%) towards breast cancer. This knowledge and perception of the future healthcare providers make us hopeful that they will play a progressive and constructive role in the screening and management of breast cancer in UAE. Our results are consistent with the findings of a study done in Oman where majority of female students were well informed and aware about breast cancer in general (Reem and Khan, 2011). However the knowledge level of the participants of this study is much higher than that of studies done in Yemen (Ahmed, 2010) and Egypt (Boulos and Ghali, 2014). Majority of the study population showed that their knowledge and perception levels were high which can be attributed to the fact that the students belonged to a medical and health sciences university.

Our study showed that majority of the study population (77%) had knowledge about the risk factors of breast cancer. These findings are consistent with the findings of similar studies done in Oman and Malaysia (Reem and Khan, 2011; Hadi *et al*., 2010). In our study 85% of the respondents believed that women with breast cancer can have good quality of life after receiving appropriate treatment. This finding is in line with the results of a study conducted on female university students in Malaysia (Hadi *et al*., 2010). Most of the female respondents (75.6%) of our study believed that Breast Self-Examination (BSE) can detect breast cancer, which is higher than the studies done in Kuwait (Al Qattan and Saleh, 2008) and Egypt (Boulos and Ghali, 2014) and lower than the study conducted in Oman (Reem and Khan, 2011). Perception towards the breast cancer treatment and its outcomes was positive among majority of our study population.

The overall knowledge score of the study population was good (8.2 out of 10), which is higher than a previous study (13.97 out of 22) done on university students of Malaysia (Hadi *et al*., 2010). Our study showed that the majority of respondents belonging to Middle East nationalities had a very good knowledge (76.2%) and perception (72.8%) scores. These findings are encouraging as the future healthcare providers from Middle East countries with good knowledge and perception towards breast cancer will play pivotal role in organizing effective programs for the awareness of breast cancer in future.

Our results demonstrated that there is a significant correlation between year of study and level of knowledge as well as perception towards breast cancer indicating that as the year of study increased the knowledge and perception also improved. An important finding of our study is that a positive significant correlation existed between the level of knowledge and the level of perception towards breast cancer. This indicates that as the knowledge of respondents pertaining to breast cancer increased, their perception towards breast cancer also improved. These findings fortify the fact that knowledge plays a very significant

role in changing the perception of people towards diseases like breast cancer. These results are in line with the previous studies which reported that as the knowledge about diseases like hypertension and HIV/AIDS increased the perception towards these diseases also improved (Sabouhi *et al*., 2011; Borsum and Gjermo, 2004).

CONCLUSION

In conclusion, the students showed good level of knowledge as well as perception towards breast cancer but the challenge is that they put this knowledge and perception into practice once they graduate from their respective colleges and take up their roles as efficient healthcare providers. In addition to this the students can further enhance their knowledge on specific aspects of breast cancer by attending various awareness campaigns and programs organized by the Ministry of Health. In a country like UAE where breast cancer is a growing public health issue, future healthcare providers with good knowledge base and positive perception towards breast cancer will definitely contribute to the better prevention and management of breast cancer in the region.

ACKNOWLEDGEMENTS

The authors would like to thank students of RAK Medical and Health Sciences University for participating in the study. The authors also thank Dr. S Gurumadhva Rao, Vice Chancellor; Dr. BG Nagavi, Dean; Dr. Padma GM Rao, Associate Dean, RAK Medical and Health Sciences University for their support and encouragement.

REFERENCES

Ahmed BA. Awareness and practice of breast cancer and breast-self-examination among university students in Yemen. Asian Pac J Cancer Prev, 2010; 11(1):101-105.

Al Qattan M and Saleh K. Knowledge and factors affecting breast self examination among Kuwaiti women. Kuwait Med J, 2008; 40:103-110.

Al-Naggar RA, Al-Naggar DH, Bobryshev YV, Chen R, Assabri A. Practice and barriers toward breast self-examination among young Malaysian women. Asian Pac J Cancer Prev, 2011; 12(5):1173-1178.

Anderson KN, Schwab RB, Martinez ME. Reproductive risk factors and breast cancer subtypes: a review of the literature. Breast Cancer Res Treat, 2014; 144(1):1-10.

Borsum KM, Gjermo PE. Relationship between knowledge and attitudes regarding HIV/AIDS among dental school employees and students. Eur J Dental Ed, 2004; 8(3):105-110.

Boulos DNK, Ghali RR. Awareness of Breast Cancer among Female Students at Ain Shams University, Egypt. Glob J Health Sci. 2014; 6(1):154-161.

Ferlay J, Shin HR, Bray F, Forman D, Mathers CD, Parkin D. 2008. GLOBOCAN, Cancer Incidence and Mortality Worldwide: IARC Cancer Base No. 10. Lyon, France: International Agency for Research on Cancer. [ONLINE] Available at http://globocan.iarc.fr. [Accessed on 20 January 2016].

Globocan, 2008 Available at http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx [Accessed on 20 January 2016].

Gwarzo UM, Sabitu K, Idris SH. Knowledge and practice of breast-self examination among female undergraduate students of Ahmadu Bello University Zaria, northwestern Nigeria. Ann Afr Med, 2009; 8(1):55-58.

Hadi MA, Hassali MA, Shafie AA, Awaisu A. Evaluation of breast cancer awareness among female university students in Malaysia. Pharm Prac (Granada), 2010; 8(1):29-34.

Health Authority Abu Dhabi (HAAD), 2013. Available at http://www.haad.ae/simplycheck/tabid/140/Default.aspx [Accessed on 20 January 2016].

Hill DA, Preston-Martin S, Ross RK, Bernstein L. Medical radiation, family history of cancer, and benign breast disease in relation to breast cancer risk in young women, USA. Cancer Causes Control, 2002, 13:711-718.

Jemal A, Bray F, Center MM, Ferlay J, Ward E, Forman D. Global cancer statistics. CA Cancer J Clin, 2011; 61:69-90.

Nelson HD, Zakher B, Cantor A, Fu R, Griffin J, O'Meara ES, et al. Risk factors for breast cancer for women aged 40 to 49 years: a systematic review and meta-analysis. Ann Intern Med, 2012; 156(9):635-648.

Peacey V, Steptoe A, Davidsdottir S, Baban A, Wardle J. Low levels of breast cancer risk awareness in young women: an international survey. Eur J Cancer, 2006; 42:2585-2589.

Reem MJ, Khan SA. Knowledge and Awareness of breast cancer among university female students in Muscat, Sultanate of Oman- A pilot study. J App Pharm Sci, 2011; 1(10):146-149.

Rosenberg, R., & Levy- Schwartz, R. Breast cancer in women younger than 40 years. Int J Fertil Womens Med, 2003; 48:200-205.

Sabouhi F, Babaee S, Naji H, Zadeh AH. Knowledge, awareness, attitudes and practice about hypertension in hypertensive patients referring to public health care centers in Khoor & Biabanak. Iran J Nurs Midwifery Res, 2011; 16(1):34-40.

Sait WA, Al-Amoudi SM, Tawtai DA, Abduljabbar HS. The knowledge of breast cancer among young Saudi females. Saudi Med J, 2010; 31(11):1242-1244.

Thomas E. Original Research: Men's awareness and knowledge of male breast cancer. Am J Nurs, 2010; 110(10):32-37.

WHO, 2013. Available at http://www.who.int/healthinfo/global_burden_disease/estimates/en/index2.html [Accessed on 20 January 2016].

Wong JG, Feussner JR. Screening mammography for breast cancer. A wise test when used in time. N C Med J, 1993; 54:257-260.

Youlden DR, Cramb SM, Dunn NA, Muller JM, Pyke CM, Baade PD. The descriptive epidemiology of female breast cancer: an international comparison of screening, incidence, survival and mortality. Cancer Epidemiol, 2012; 36(3):237-248.

How to cite this article:

Rabbani SA, Mutasem H, Naser RA, Hussein Y. Awareness and Perception of Breast Cancer Among the Future Healthcare Providers of Ras Al Khaimah, United Arab Emirates. J App Pharm Sci, 2017; 7 (02): 142-146.