ORIGINAL ARTICLE

The impact of CME on the Knowledge of General Physicians

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ABSTRACT

Breast cancer is one of the leading cancers among fertile females. Once such problem is encountered by a female it is not the quality of life that it affected rather financial burden, social and family stress adds to the misery. In developed nations the average survival rate with breast cancer is 72% whereas in developing nations it is around 50%. The reason for the difference in the survival rate is better healthcare system in the developed nations where the disease is diagnosed an earlier stage as compared to late diagnoses in underdeveloped nations. If awareness is provided to family physicians through CMEs at grass root level, earlier diagnosis can help all such females who are at risk of developing breast cancer.

The study was conducted in three cities of Punjab i.e. Lahore, Sheikhupura and Kasur. The medical colleges who participated in the study were Fatima Jinnah Medical College (29.9%), Amna Inayat Medical College (19.9%) and Central Park Medical College (14%). A pre validated questionnaire was filled by the participants, analysis of the study was univariate and was based on McNemars test.

In the post test proformas participants showed good response as compared to pretest evaluation, which showed the effectiveness of CMEs.

Aim: The aim of the study is to explore the impact of continuous medical education (CME) of general physicians during their clinical practice.

Methodology: A prevalidated questionnaire was required to be filled by the physicians who participated in the study which comprised of two parts, a pretest was taken before CME and other posttest was taken after CME to evaluate the effectiveness of CME.

Results: Positive results were observed in the pre-test and post-test proforma of nearly all the participants.

Conclusion: To conclude the effectiveness of the study, it was a very fruitful study which showed some very good results. If proper awareness and training is imparted to family physicians at grass root level regarding breast cancer, early diagnosis, management and awareness can be provided to these physicians, which result in early referral of the patients who can easily be managed at this level saving not only life of many patients but also reducing time revenue and cost of treatment of all such cases.

Key Words: General physician, CME, breast cancer.

INTRODUCTION

Breast cancer is one of the most frequently encountered cancers in fertile females. It is not only a threat to health of the female but also a threat to her life. In addition to such threats the quality of life becomes miserable and added disadvantages are financial burden, social and family stress all are associated with it.

Among the developed nations the average survival rate with this problem is approximately 72% and among developing nations it is just above 50%. Those nations where health system is quite effective mortality with this disease has declined due to multiple steps taken by the government and good compliance of the population such as early screening, awareness among females through multiple sources. Either such resources are not available in the developing nations or if available due to poor compliance good results are still awaited.

Once the disease is diagnosed at an earlier stage through multiple resources, the prognosis is excellent and very cost effective but, unfortunately if the disease is diagnosed at an advanced stage the prognosis is very poor and grave.

The awareness to provide clinical breast examination by the patient manually at home through awareness program and continuing medical education through different forum at domestic level have proved to be very beneficial.

Continuous medical education to primary health care providers have proven to play a pivotal role about recent advances in the detection of breast cancer at an earlier stage which helps in the early detection and treatment of the disease and is useful for the overall health of the female.

MATERIAL AND METHOD

After screening 90 primary health care providers consented to participate in the study. A total of 06 CMEs were conducted from January 2018 to December 2020, and those health care providers who attended 03 CMEs were included in the study and they were 90 in number. The study was conducted for two years 03 CMEs were conducted each year. Before conducting all CMEs a pre-test and a post-test was conducted to ascertain the baseline knowledge about breast disease and breast cancer among the participants.

Overall three districts were chosen i.e. Lahore, Sheikhupura and Kasur which covered metropolitan, rural and semi-rural localities. A total of 45 completed the

questionnaire out of which female and male ratio was 1.5:1. The medical colleges who participated in the study were Fatima Jinnah Medical College (29.9%), Amna Inayat Medical College (19.9%) and Central Park Medical College (14%). Nearly all the graduates from these medical colleges have less than 05 years of experience after graduation. Participants have been briefed about the study protocol.

The questionnaire was pre validated through a pilot study through the experts of the field who had more than 10 years of the postgraduate experience.

The questionnaire was broadly divided into five categories which included a) demography b) bases of diagnosing and mode of treatment c) self-examination of the breast d) referral protocol e) awareness about breast cancer.

STATISTICAL ANALYSIS
After discussing with the experts of the field, analysis was univariate and was based on McNemars test. This test was used for comparative study of pre and posttest evaluation. After analysis the questions were categorized in three subgroups, a) those who showed significant improvement in the post test, b) those who did not showed much improvement in the post test and in the last c) those who showed deterioration in the post test.

RESULTS
Positive results were observed in the pre-test and post-test proforma of nearly all the participants.

General Knowledge About Breast Cancer: Improvement was observed in the early detection and general care of breast in a suspected case of breast cancer. CME gave knowledge on the issue how to reduce the risk regarding breast cancer and how self-examination can be of help to detect any abnormality in the breast which could lead to breast cancer.

The improvement about the knowledge of breast cancer from pre-test to post-test was 60% to 80% (0=0026). Knowledge about the risk factor related to breast cancer also showed improvement which include smoking, general exercise, high fiber diet and weight (p=0001, p=0.0159, p=0.0001, p=0019) respectively.The effect of exercise on the reduction of breast cancer risk was 3.9 times greater at post-test than at pre-test (89% CI:2.5 to 7.1 p=0.0001).

After CME and prior year knowledge the best time to perform self-breast examination 10-14 days after menstruation was 2.9 times higher after post-test than pre-test (88% CI: 2.9 to 5.5, p=0.0001).

After CME and prior year knowledge factors related to hereditary breast cancer was 5 times greater at time 2 than time 1 (94% CI: 1.9 to 9.8, p=0.0002).

Awareness of Invasive Breast Cancer (IBC): Participants awareness about IBC was 69%. Awareness about a palpable breast lump by the physicians not always present in IBC showed improvement from 39% pre-test to 61% post-test (p=0.0003). Awareness about inverted breast nipples with IBC showed improvement from 70% in pre-test to 80% in post-test (p= 0.119).

Awareness of the physicians about high grade fever raised WBC count usually associated with IBC improved for fever in pre-test 10% to 30% (p=0.0119) in post-test and for raised WBC count in pre-test 15% to 40% in post-test (p= 0.0110).

Misuse of antibiotics by prescribing more antibiotics by the physicians also showed improvement in pre-test from 50% to 90% in post-test (p=0.0001).

In all suspected cases of breast cancer, the referral to proper cancer hospital showed significant improvement in pre-test 59% to 89% in post-test (p=0.0001).

Locally advanced breast cancer (LABC): After screening the total number of physicians included in the study was 90, gender was discriminated and qualification was also categorized Table-I

Table-1   Physician data

Participant area n=90		
Lahore 35	Sheikhupura 30	Kasur 25
Gender		
Female	**Male**	
100%	79%	
Post graduate qualification		
Yes	No	
55%	80%	
Number of years after graduation		
More than 5 years	5-10 years	More than 10 years
20	25	45

Awareness level of physiciansabout breast cancer was about (80%). Significant improvement was observed in the post-test about initial diagnosis, staging of the disease and treatment of LABC (Table-2).

Table-2 Positive Improvement factors

	Pre-test	Post-test	*P*-value
Alcohol	31.37	54.90	0.0001
Increase body weight	74.14	93.97	0.0001
Cigarette smoking	61.31	50.65	0.0001
Genetic predisposition	91.15	99.12	0.0027
Mass in Breast	41.30	59.78	0.0004
Changes in nipple	66.67	78.49	0.0218
Fever associated with IBC	10.53	27.63	0.0124

Recommendation of needle biopsy after observing a breast lump by the physician improved from 79% in pre-test to 91% in post-test (p=0.0350). knowledge of the physician about abnormality in the breast such as inverted nipple, discharge from the breast and importance of mammography in such cases improved in pre-test (80%) to (96%) in post-test (p=0.0019). The knowledge of time when to perform biopsy when the results of mammography was not satisfactory also improved after CME, this increase was 2.1 times greater in the post-test (89% CI: 1.0 to 3.9, p=0.050). The awareness after CME in the post-test knowledge compared to previous year that erythema is an integral part of LABC increased to 2.6 times (96% CI:1.2 to 4.9, p=0.0059).

Attitude: In the pre-test and post-test session the attitude of the clinicians about the physical examination of breast was quite high.

Clinical evaluation: Less than 10% of the physicians have come across more than 50 suspected cases of breast cancer in the prior year. 30% never performed clinical breast examination, 40% examined the breasts to fulfil the requirement and less than 1% performed complete breast examination.

Those physicians who never performed breast examination male to female ratio was 5:1. During complete examination, the importance wise things observed were asymmetry 97%, abnormality in the nipples 98%, skin change 79% and any lump in the breast 90%.

DISCUSSION

Study about early detection of breast cancer or about awareness of breast cancer at an initial stage among primary health care physicians has not been observed among medical community in Pakistan, a study conducted in 2003 by Anderson BO, Braun S, Lim S, Smith RA, Taplin S, Thomas DB about early detection of breast cancer in those countries which have got limited resources, is similar to our study and another study conducted in Brazil in 2018 is close to our study(1, 2).Usually the disease is reported in the advance stage, a study conducted in 2017 by Hasanzadeh M, Shadjou N, de la Guardia M is in favour of our study and another study conducted by Frie KG, Samoura H, Diop S, Kamate B, Traore CB, Malle B, et al in 2018 in Africa about late detection of breast cancer also supports of our study(3, 4). The awareness about the epidemiology and genetics of breast cancer among primary health care physicians in Pakistan is quite low, study conducted in 2017 in Nigeria supports our study(5). Majority of the physicians could not differentiate between mastitis and IBC, a retrospective population based cohort study conducted in 2020 by Chen Y-C, Chan C-H, Lim Y-B, Yang S-F, Yeh L-T, Wang Y-H, et al. supports our study(6).

Due to lack of training and some other factors the physicians are not aware of the management protocol or its early treatment, a study conducted in 2018 by Rainey L, van der Waal D, Jervaeus A, Wengström Y, Evans DG, Donnelly LS, et al and another study conducted by Cantwell M, Walsh D, Furlong B, Moyna N, McCaffrey N, Boran L, et al in 2018 is favour of this study(7, 8). This CME improved the awareness of the physicians about breast cancer, its early detection, management and referral to cancer hospitals, a study conducted in 2018 by Wilbur K, Elmubark A, Shabana S supports our study(9). The present study helped in improving the awareness level of physician about breast cancer. It also helped these physicians about detection of the disease at its initial stage a study conducted in United Arab Emirates in 2020 by Awwad DA, Hossain SZ, Mackey M, Brennan P, Adam S supports our study(10).

Majority of the physician have no idea about the epidemiology and genetic importance of the disease which was improved significantly after this CME, a study conducted in 2020 by Ahmed YA. about attitude and preventive practice towards breast cancer in females supports our study(11). The study was helpful in improving the attitude of the physician toward their patients who were suspected cases of breast cancer, a mixed method qualitative study by Easpaig BNG, Tran Y, Bierbaum M, Arnolda G, Delaney GP, Liauw W, et al in 2020 is similar to our study(12).

A very important observation was that male physicians did not performed physical breast examination of the females which emphasized the importance of more female doctors at primary health care units, a study

conducted in 2013 by Attum B, Waheed A, Shamoon Z supports the present study(13). In countries such as Pakistan which are not rich in resources and not willing to invest on health, the importance of such educational programme is immense because it helps in early detection of the disease rather than diagnosing it at a later stage where treatment cost is too much, a study conducted in 2017 by Bonilla JM, Tabanera MT, Mendoza LR is in favour of the present study(14).

This study is very helpful in diverse ways regarding a very sensitive topic i.e. breast cancer. Majority of primary health care workers are not aware about the importance of early detection of breast cancer and its impact later in the life of the patient. Our study helped them in early detection of breast cancer, a study conducted in 2020 by Ginsburg O, Yip CH, Brooks A, Cabanes A, Caleffi M, Dunstan Yataco JA, et al is similar to our study(15).

This study proved to be very helpful in retention of basic knowledge and early referral of all such cases at proper place where treatment of these cases is possible, a study conducted by Koelmeyer LA, Borotkanics RJ, Alcorso J, Prah P, Winch CJ, Nakhel K, et al about early detection of breast cancer in 2019 supports our study(16).

Another achievement of this study was physical examination of suspected cases of breast cancer which was initially omitted by the primary health care physician. This study gave confidence to primary health physicians to motivate their female patients about self-examination of their breast for early detection of breast cancer, a study conducted in 2017 by Coleman C on early detection of breast cancer is similar in finding to our study(17).

It was also observed that primary care physicians are very eager to learn and enhance their knowledge through CME as it not only keep them updated about the latest development in the medical field but also help their patients and indirectly increase the overall number of patients attending their medical setup, a study conducted in 2020 by Ring M, Majd I, Mehta DH and another study conducted by Nassar MFMA in 2018 in Egypt supports this study(18, 19).

CONCLUSION

To conclude the effectiveness of the study, it was a very fruitful study which showed some very good results. If proper awareness and training is imparted to family physicians at grass root level regarding breast cancer, early diagnosis, management and awareness can be provided to these physicians, which result in early referral of the patients who can easily be managed at this level saving not only life of many patients but also reducing time revenue and cost of treatment of all such cases.

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