CURRENT SITUATION OF CONTINUING MEDICAL EDUCATION FOR PRIMARY HEALTH CARE PHYSICIANS IN AL-MADINAH AL-MUNAWARAH PROVINCE, SAUDI ARABIA

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Objective: In the health care system, continuing medical education (CME) is concerned with the maintenance, improvement, and promotion of health care provided by physicians. The objectives of this study are: to assess the knowledge, attitude and practice of Primary Health Care (PHC) physicians of CME, and to analyze the utilization of Continuing Medical Education (CME) program.

Material and Methods: This is a cross-sectional descriptive study with an analytic component. A two-stage stratified random sampling was done on 189 PHC physicians from 76 PHC centers in the Al Madina, Al Munawarah City. One Hundred Fifteen physicians actually took part in the study.

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Results: Only 3.5% of the physicians were Saudi, 2% had PHC postgraduate qualification in Primary Health Care and 75% had had basic training during their practice. The study showed that: (1) PHC physicians who worked in a group evaluated Medical Education Center (MEC) better than those who worked alone (p = 0.0052). (2) Those who were aware of the presence of the MEC gave MEC contribution a better grade in evaluation than those who were not (p=0.0001). (3) PHC physicians who had more experience in medical practice evaluated CME achievement with a better grade than those who had less experience (p = 0.0173). (4) PHC physicians working in groups evaluated CME achievement with a better grade (p = 0.0330). (5) Those who were attached to the hospitals evaluated CME achievement with a better grade (p = 0.0392). (6) Those who attended activities outside PHC centers evaluated CME achievements better than those who did not (p = 0.0202).

Conclusion: From the results it was concluded that: (1) There are many PHC physicians who were unaware of CME activities in their area of work and therefore tend to be unhappy with MEC contribution. (2) PHC physicians were not satisfied with MEC’s contribution and with their CME’s achievements. (3) PHC physicians felt the need for utilizable CME. (4) PHC physicians were not fully aware of the use of the internet, distance learning, and emails in CME.

Key Words: Continuing Medical Education (CME), Primary Health Care (PHC), Medical Education Center (MEC), World Health Organization (WHO).

INTRODUCTION
Education is an effective means towards progress, advancement, civilization of nations, and a way of helping people to keep abreast with science and developments around the world. In the health care system, Continuing Medical Education (CME) is ongoing until the end of a physician’s working life. It is concerned with the maintenance, improvement, and promotion of the health care which physicians provide for people.

Primary Health Care services are influenced by the Physicians’ CME. The importance of PHC in improving standards of health was advocated by the World Health Organization (WHO) in the Alma Ata Declaration, and it is envisaged that CME can help achieve this aim.

Medical educators recognize that CME is essential in universities and professional organizations. Moreover, CME is believed to be the major process by which effective clinical practice can be achieved, and significant advances formulated. Therefore, in order to cope with these challenges, CME needs to be provided for all physicians, especially those who are not recently graduated. Research has shown that 10% of all physicians in the United States of America became professionally impaired at some point in their career when after graduation their education come to an end.

Primary Health Care is essential for the improvement of community health and CME helps all physicians to keep up-to-date. The explosion of scientific information, rapidly advancing medical concepts and the rapid changes in technologies, underscore the inevitability of useful CME programs for PHC physicians. At the same time, there is an increasing demand on the health sciences to be economical and responsible, particularly in prescribing medications, ordering investigations, and above all, referrals to secondary care. Physicians are able to meet these challenges mainly through CME. CME is necessary to ensure the quality of health care and PHC physicians’ concern to promote and improve their knowledge, attitude, and practice. The provision of appropriate and relevant CME programs can support the individual professional movement of PHC physicians. To be appropriate and relevant, CME programs should be based on the educational needs of PHC physicians. A needs assessment is a crucial step in the successful planning of CME programs. It ensures the PHC physicians’ use of CME in their quest to improve their performance. This needs assessment of CME however, is yet to be properly done.

Primary Health Care physicians are often health care managers. Therefore, CME will not only improve the physician’s competence and performance in practice and the quality of health care, but also promote more effective and efficient use of the available resources.

The objectives of the present study were to assess the knowledge, attitude, and practice of PHC physicians towards CME activities, analyze
the utilization determinants for CME programs in relation to (i) demographic characteristics, (ii) qualifications and experience, (iii) available resources, (iv) facilitating and hindering factors for CME, and (v) expectations and interests of PHC physicians.

MATERIAL AND METHODS

This was a cross-sectional descriptive study with an analytic component. A two-stage stratified random sampling was done on 189 PHC physicians from 76 PHC centers in the Al Madina, Al Munawarah City. 115 physicians took part in the study, 83 (72.2%) of these and 32 (37.8%) came from inside and outside the city, respectively.

A carefully designed (in consultation with CME national and international experts) self-administered questionnaire, with closed items, was used to explore the whole range of issues in CME. The mean was used as a cut-off point to group the characteristics of PHC physicians. The learning methods of the CME program were graded according to their effectiveness for PHC physicians as: Excellent-5, Very Good -4, Good -3, Fair - 2, Poor -1 and No Experience-0. The content of the CME program was developed by revising the postgraduate qualification programs for both the fellowship of Family and Community Medicine of King Faisal University and the Arab Board of Family Medicine (ABFM). Test reliability was solved for Kappa (83.7%) for the learning methods of CME, and for the learning contents of CME program (82.4%) by test-retest method. Content validity was carried out with local and international consultants as members of the validating team.

RESULTS

All the respondents had long experience in medical practice (mean ± SD = 15.5 ± 5.6), and the experience in PHC practice in Saudi Arabia constituted almost half (mean ± SD = 7.5 ± 4.1) of their medical practice. The respondents also attended to a large number of patients (mean ± SD = 69.4 ± 19.8) daily. They seemed to work at PHC’s where physicians were very few (ranging from 1-7 PHC physicians), with mean ± SD = 2.9 ± 1.7. The majority of them 93(80.9%) were aware that there was the MEC in Al Medina Al-Munawarah City. The distance between the MEC and PHC centers where they worked ranged from 2-2000 km with mean ± SD = 41.7 ± 58.6. They were divided into two groups as follows: 83 (72.2%) ≤40 from the MEC, and > 40 km 32 (27.8%) physicians.

Only 33.9% of the respondents believed that training during their time in medical school had made them aware of the importance of CME activities after graduation and in their medical practice. Approximately 74.6% or 86 physicians had done a basic PHC training course during their PHC practice in Saudi Arabia. The remaining 29 (25.2%) reported that the most important factors preventing them from attending a basic PHC training course were the following: unavailability (19 physicians), not mandatory (4 physicians), decided not to participate 2 (6.9%), had had enough training in medical school 2 (6.9%), or informed by colleagues that it was not useful 2 (6.9%). Among those who had had some basic PHC training, nearly 70.9% or 61 physicians felt that it was adequate. The remaining 25 (6.9%) reported that what affected the adequacy of a basic PHC training course the most was the insufficient time allotted for it; 13 (52%) said the content was not relevant; 6 (24%) felt the trainer was not competent; 2 (8%) felt the place was not suitable; 2 (8%) indicated that the learning method had no practical input.

The experiences and practice of the PHC physicians were studied in terms of: experience in medical practice, experience in PHC practice in Saudi Arabia, number of patients managed daily by every PHC physician, number of PHC physician in each PHC center, awareness of the presence of the MEC in Al-Medina, Al-Munawarah City, and distance between the MEC and PHC centers.

The perception of the relevant CME needs of the PHC physicians were assessed by identifying five aspects likely to be associated with CME. The most common factors that hindered attendance at CME were the lack of time; 42 (36.5%), non-availability of suitable CME; 30 (26.1%), practice commitments: 20 (17.4%), distance; 17 (14.8%), and family commitments: 6 (5.2%). Similarly, the most common factors reported as facilitating attendance of CME were the designated time of event; 48 (41.8%), venue; 32 (27.8%), subject covered; 20 (17.4), speaker’s credentials; 9 (7.8%), and cost; 6 (5.2%). Thursdays, mornings, an upper limit of two hours duration were suggested as the best for CME activities by 73 (63.5%), 74 (64.3%), and 75
(65.2%) respectively. Attachment to hospital teaching units, training courses, and regular medical sessions at the MEC were suggested as the best styles to meet CME requirements by 42 (36.5%), 38 (33.1%) and 35 (30.4%) respectively. Sixty-five (56.5%), and 50 (43.5%) suggested Questionnaires and interviews respectively as the most suitable approaches for the evaluation of CME activities.

Thirteen PHC physicians (11.3%) attended CME activities at PHC centers. The most commonly used formats for CME activities were: lectures (8 physicians or 61.5%), and group discussions; (5 or 38.5%). The remaining PHC centers had a statistically significant (Fisher’s Exact; p = 0.0364) association with PHC training, experience in PHC practice in Saudi Arabia, the number of PHC physicians in each PHC center, and location of the MEC. Of the PHC physicians who had had basic PHC training course 13 (15.1%) reported having attended CME activities more than those who had not (0 or 0.0%). Those who attended CME activities differed significantly in their years of PHC practice from those who did not (t=2.71; p=0.0080). Those who worked in PHC centers with a greater number of PHC physicians seemed likely to attend CME activities than those who did not, (t=2.60; p=0.0110). Those who attended CME worked in PHC centers located further away than those who did not (t = 6.08; p<0.0001).

Sixty (52.2%) PHC physicians attended CME activities outside PHC centers (mean age ± SD = 42.5 ± 6.2), and the remaining 55 (47.8%) did not (mean age ± SD = 39.6 ± 5.5). Attending CME activities outside PHC centers tends to be associated significantly with age, PHC training, experience in medical practice in Saudi Arabia, number of PHC physicians in each PHC center, awareness of the presence of the MEC, and location of the MEC.

Fifty-four (62.8%) PHC physicians had undergone basic PHC training course and tended to have attended CME activities more than those 6 (20.7%) physicians who had no training (χ² = 15.41; p = 0.0001). Other factors which showed significant differences between physicians who attended and who did not attend CME training are: experience in medical practice (t = 2.82; p <0.0060), years of experience in PHC practice (t=2.93; p < 0.0040), number of PHC physicians in each PHC center (t=2.52; p<0.0130), and distance of the MERC from PHC centers (t=3.76; p<0.00001).

The PHC physicians evaluated their own CME achievements as: poor (n = 29 or 25.2%), fair (n = 46 or 40.0%), good (n = 36 or 31.3%), very good (n = 4 or 3.5%), and excellent (n = 0 or 0.0%).

The factors which showed significant differences between physicians who had better CME grades were aged 40 years or more (t=3.12; p<0.0020), being an Arab (t=2.10; p<0.0380), experience of >16 years (t=3.72; p<0.0001), working in a PHC with >3 physicians (t=2.70; p<0.0080), awareness of the presence of the MEC (t=1.98; p<0.0490), being attached to hospital teaching units (t=2.40; p<0.0180), and having attended activities outside PHC centers (t=3.04; p=0.0030). PHC physicians who worked in a group evaluated MEC contribution higher than those who worked alone (p=0.0052). Similarly, Table 1 shows that those who were aware of the presence of the MEC evaluated its contribution with a higher grade than those who were not (p<0.00001).

| Facts of evaluation/Variables | RC (B)* | p-value |
|------------------------------|---------|---------|
| MEC contribution             |         |         |
| No. of PHC physicians         | 0.003   | 0.0052  |
| Awareness of MEC presence    | -0.918  | <0.0001 |
| (constant)                    | 2.286   |         |
| CME achievements             |         |         |
| Experience in medical practice| 0.003   | 0.017   |
| No. of PHC physicians         | 0.108   | 0.033   |
| Attachment to hospitals       | -0.411  | 0.038   |
| Activities to hospitals       | -0.534  | 0.020   |
| (constant)                    | 3.041   |         |

*Regression coefficient

Logistic regression of the independent variables with the evaluation of MEC contribution was statistically significant, at p < 0.00001, and evaluation of CME achievement was statistically significant, at p < 0.0002. Thus, MEC contribution and CME evaluation were affected by the individual variables. Non-Arab PHC Physicians were satisfied with MEC's contribution 2.67 times more than Arabs, at p < 0.0368. Those who worked in a group were satisfied with MEC's contribution 1.37 times more than those who worked alone, at p < 0.0242. Those who were aware of the presence of the MEC were satisfied with its contribution more than those who were not, at p < 0.00001. Those who had more experience in medical practice evaluated the achievement of CME with a better grade than
those who had less experience, at p < 0.0330. Those who were attached to hospital teaching units evaluated CME's achievement with a better grade than those who were not, at p < 0.0382 and, those who had attended activities outside PHC centers evaluated CME's achievement with a better grade than those who had not, at p < 0.0204. PHC physicians who had more experience in medical practice were satisfied with CME's achievement 1.01 times more than those who had less experience, at p < 0.0315. Those who worked in a group were satisfied with CME's achievement 1.33 times more than those who worked alone, at p < 0.0242. Finally, Table 2 shows that those who were attached to hospital teaching units were satisfied with CME's achievement more than those who were not, at p < 0.0046.

DISCUSSION

The PHC physicians who were studied were young, 56% of them belonging to the age group ≤ 40 years. Age is statistically associated with attendance at PHC activities outside PHC centers, the grade given to MEC's contribution, the grade given to CME's achievement, and the score for attitude towards CME activities. Younger PHC physicians attended the least number of CME activities outside the PHC centers, reported lower grades for MEC's contribution and CME's achievement, and scored low in the attitude towards CME. These results may indicate the lack of interest and motivation of the new generation of PHC physicians toward CME, or could be the result of being in a period of transition.

Female physicians comprised 36% of the PHC physicians studied, which confirms the proportion found by Al-Shammari et al (39%) in Saudi Arabia. Other findings in literature may not have the same proportion: 17% by Braithwaite et al, 18% by Forrest et al, and 23% by Al-Shehri in the United Kingdom, and 21% by Shahabudin et al in Malaysia.

Only four (3.5%) PHC physicians were Saudis. Approximately, 65% of PHC physicians were Arabs. This was supported by findings of Al-Shammari et al which found that 3.5% of PHC physicians in Saudi Arabia were Saudis. Other similar studies by Wood et al, Brathwaite et al, Forrest et al, and Al-Shehri in the United Kingdom, Moorhead et al, and Gill et al in Australia, Shahabudin et al in Malaysia did not specify the nationalities. There is a need for a new generation of Saudi physicians to specialize in PHC. This can be achieved by increasing the weight of PHC in the undergraduate curriculum, effective CME programs and academic activities, and an improvement of PHC centers.

According to the study, 28% of the physicians held postgraduate qualifications, only 2% of which were in PHC specialty. This was more than the 19% found in Saudi Arabia by Al-Shammari et al but less than in the United Kingdom (61% and 30% MRGCP by Al-Shehri), Australia (59% and 27% FRACGP by Moorhead et al, and 79% and 20% FRACGP by Gill et al), Malaysia (42% but PHC specialty was unreported by Shahabudin et al). Hence, in this study, the percentage of PHC physicians who had postgraduate qualifications was low.

Around 60% of the PHC physicians believed that their training in medical school had not prepared them well for CME after graduation and during their medical practice. There was no statistically significant difference between those who believed that their training in medical school had prepared them well for CME after graduation and during their medical practice, and those who did not. This may indicate the lack of appreciable
improvement in the CME, which in part might be due to the brevity of the training periods, or the little importance given to CME during training in medical school, or both.

Although 75% of PHC physicians had attended a basic PHC training course while on PHC practice, 29% of them felt the training was inadequate. Since the importance of specific basic PHC training course is clear, physicians should be given adequate training courses as CME. Participation in different training courses, attendance of CME activities within PHC centers, and the attendance of the CME activities within and outside PHC centers showed significant statistical differences in basic PHC training course. PHC physicians who had had basic PHC training reported more participation in different training courses, and more frequent attendance of CME activities inside and outside PHC centers. These findings were expected for physicians who felt inclined to look for different styles of CME after a basic PHC training course. Thirty-four percent of PHC physicians had been in medical practice for more than 16 years. Attendance of CME activities outside PHC centers, the grade of MEC contribution, the grade of CME achievement, and the score of attitude towards CME made statistically significant differences. PHC physicians who had more experience in medical practice attended the most CME activities outside PHC centers, reported high grades for MEC's contribution and CME's achievement, and scored high in the attitude towards CME. These physicians were well established in their careers and felt that they needed CME in order to maintain their professional competence and confidence.

PHC physicians who had more experience in PHC practice in Saudi Arabia attended the most CME activities in and outside PHC centers. This shows that they felt the need for CME in order to maintain their competence and confidence. PHC physicians who worked in a group of more than three PHC physicians were 45%. This made statistically significant differences in terms of participation in different training courses, attendance of CME activities within PHC centers, attendance of CME activities outside PHC centers, the grade given for MEC's contribution, and the grade given for CME's achievement. PHC physicians who worked with more PHC physicians participated the most in different training courses and attended most of CME activities inside and outside PHC centers. This finding may be explained by the ability of PHC physicians who worked with more PHC physicians to organize their practice and arrange their work in a way that would afford them the time to participate in CME. The professional association may be a motivating factor as well. Besides, keeping abreast with current trends could be an effective stimulus for change in behavior. Similarly, they gave a high grade for MEC's contribution and CME's achievement, since they were more active in CME.

Physicians identified the following as the main factors hindering attendance at CME: lack of time (37%) and non-availability of suitable CME (26%), which were supported by similar studies in literature in countries with similar circumstances. The lack of time for PHC physicians was due to either a heavy workload, or long working hours, or both. If their workload cannot be reduced through the implementation of appointment systems and mini-clinics, a specific time should be assigned for CME activities. Those who felt that the PHC physicians' attendance at CME activities depended on time were 42%, and place were 28%. The literature shows similar results of studies in other countries. Planners should take these factors into consideration. Practice-based CME may be an answer to the problem of time and place.

PHC physicians prefer to attend CME activities held during normal working hours on Thursdays (63%), in the morning (64%), and for two hours (65%). Studies in the literature indicated agreement with the PHC physicians' preference for attending CME activities during working hours, but disagreed with preferences in the literature for weekdays, day time and evenings for CME activities. The lack of accord of the present sample with the literature on the preferred day and time is because of Saudi Arabia's PHC shift work system (morning and evening). In Saudi Arabia, Thursday is the last day of the working week with a long half-day's work (6 hours), while at the weekend, day or night shift is short (3 hours). In their options, they indicated a preference to enroll in regular and continuous CME programs, including attachment to hospitals (37%), training courses (33%), and medical sessions at the MEC (30%). This highlights the importance of giving an annual study leave to PHC physicians to update their medical knowledge and skills. The PHC physicians were divided more or less equally on the recommended
approach for CME evaluation as follows: questionnaire (57%) and interview (57%).

PHC physicians evaluated their MEC contribution to their CME activities as unsatisfactory because of their lack of practical value, and not because of the availability of suitable CME activities provided by the MEC for PHC physicians. Certain characteristics of PHC centers and awareness of the presence of the MEC yielded a better evaluation grade for MEC's contribution. They are also significantly associated statistically with their satisfaction with the activities provided.

The PHC physicians’ unsatisfactory evaluation of their CME achievement might be due to a lack of motivation of PHC physicians, or the absence of regular effective CME programs, or both. Results of multiple regression analysis showed that certain variables associated with PHC physicians such as an increase in the number of PHC physicians in each PHC center and the awareness of the presence of the MEC, attachment to hospitals, and attendance of activities outside PHC centers seemed to encourage the physician to give a better grade evaluation for MEC's achievement.

CONCLUSION AND RECOMMENDATION
The following are the major conclusions drawn from the study:

1. Younger physicians tend to grade themselves lower in CME and MEC activities. PHC physicians need CME activities to encourage them to choose Family and Community as a specialty and work at PHC centers.
2. PHC physicians who were younger, Saudis, had shorter length of medical service, fewer PHC physician colleagues at the work place, unawareness of the presence of MEC, and working in PHC centers far from the MEC venues tended to indicate dissatisfaction with MEC's contribution to their practice.
3. PHC physicians who were Saudis, had shorter lengths of medical service, had fewer PHC physician colleagues in the work place, not-aware of the presence of MEC, and working at PHC centers located far from the MEC venues, professionally involved in hospitals, and had attended CME activities outside the PHC centers tended to indicate dissatisfaction with their CME achievement.
4. Many of the physicians had no PHC training as part of their basic University training.
5. PHC physicians felt the need for relevant CME.
6. Only few of them use the internet and email for CME purposes.

In the light of the conclusions, the following recommendations are made:
1. All PHC physicians should have a basic training course during their PHC training.
2. A new system should be set up in PHC practice to provide the proper environment for PHC physicians to participate in CME programs. This can be achieved by introducing one shift duty, an appointment system and mini-clinics at PHC centers.
3. An annual study leave of reasonable duration should be arranged for all PHC physicians for CME. This should be properly supervised with the clear objectives of providing effective attachment to hospital teaching units or participation in training courses.
4. Many physicians who did not attend CME did not know any MEC in their vicinity. There is therefore a need to locate MECs and CME's near PHCs.

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