ATTITUDE, PRACTICE AND NEEDS FOR CONTINUING MEDICAL EDUCATION AMONG PRIMARY HEALTH CARE DOCTORS IN ASIR REGION

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Objectives: Assess the attitude and practice of Primary Health Care (PHC) physicians in Aseer region, their educational needs and recommendations to establish a continuing medical education program (CMEP) to address these needs.

Methods: This study was carried out during the first half of 1999 in Aseer region, Saudi Arabia. A self-administered questionnaire was distributed to all PHC physicians in Aseer region. The questionnaire explored socio-demographic characteristics, scientific background, the attitude towards CME, the current method for medical updating, the barriers to CME, and the topics requested for a future CMEP.

Results: There were a total of 383 PHC physicians in Aseer region, 86% of whom responded to this questionnaire. Of these 76.1% were Arabs, 91.2% were married, 26.3% had post-graduate qualifications and 68.6% had no experience in the PHC field prior to arriving in Saudi Arabia. Most respondents showed a positive attitude toward CME. Nearly two-thirds (64.4%) had adequate time for CME, 86.7% allocated time for CME, and 64.4% were ready to participate as tutors in CMEP. Suggestions were given by 49.6% for establishing a CMEP in the region. The most popular methods practiced for CME were reading medical journals (79.8%) and medical textbooks (53.8%), and attending training courses (39.6%). The medical subjects that were identified as needed were emergency medicine (24.5%), pediatrics (20.8%), internal medicine (20%), and obstetrics/gynecology (18.7%). However, 75.2% also indicated that computer literacy was a practice requirement, 57.7% and 54.1% thought designing diabetes and hypertension management programs were vital, and 41.7% said learning how to design a PHCC action plan was essential.

Conclusion: PHC physicians in Aseer region had a positive attitude towards selective CMEP. They needed CMEP but felt its content should be in line with their practice needs.

Key words: Attitude assessment, practice needs, CME, primary care physicians, Aseer region.

INTRODUCTION
In 1980, the Ministry of Health (MOH) in Saudi Arabia adopted Primary Health Care (PHC) as an essential approach in its policy to achieve the goal of the World Health Organization (WHO), "Health For All By 2000".1 In order to improve the quality of PHC services, the MOH in collaboration with the WHO and other organizations, issued many practical guidelines.2-5 This progress in PHC practice was not accompanied or followed by well-organized Continuing Medical Education Programs (CMEPs), despite recommendations by various studies on the importance and need for these programs.6-9 Physicians at PHC centers in Saudi Arabia play a major role in introducing preventive, curative and promotive health care for their patients.1,2 To introduce and maintain good health services, it is essential to have clinically competent, knowledgeable PHC physicians. The acquisition and updating of medical knowledge and skills cannot be achieved in the absence of CMEPs in the region. However, initiation of these programs requires adequate background information about the socio-demographic and scientific characteristics of the PHC physicians, their attitudes towards CMEP and the obstacles that hinder it, and their medical needs.
Previous studies on CME did not include Aseer Region. Consequently there is a need to plan for the establishment of a real, timed, practice-based CMEP in Aseer Region.

The objectives of this study were to assess the attitudes, practices and educational needs of PHC physicians, and make recommendations for establishing CMEP in the region.

MATERIAL AND METHODS
Aseer Region is located in the southwest of Saudi Arabia. There are 14 health sectors. Each sector consists of a general hospital and a number of PHCCs. During March 1999, a self-administered questionnaire was distributed to all PHCC physicians in Aseer region by well-trained technical supervisors and was completed under their direct supervision in order to obtain a 100% response rate. The questionnaire was designed to explore five areas. The first was socio-demographic data (age, sex, marital status, and nationality).

The second area concerned the attitude of PHC physicians toward CME. This section consisted of six questions which dealt with: the physicians’ availability and allocation of time for CME, their need for additional training in PHC practice, desire to participate as tutors in any future CMEP, their preferred methods of learning, and satisfaction with their current medical knowledge. The third area was about access to CME. This explored the reading of medical journals, attendance at training courses within the past year, and preparation for post-graduate qualifications.

The fourth area explored professional needs, which included topics for future CMEP and the preferred tutors for such programs. Two methods were used to explore this area. The first asked physicians to reply to an open-ended question. The second gave nine topic options to be selected for training. The nine topics were thought necessary for all PHCC physicians (investigator’s opinion). They were computer literacy, designing diabetes and hypertension care programs, designing action plans for their PHCCs, data interpretation, writing research proposals, the acquisition of research methodology, and how to read and appraise medical literature.

The final area was concerned with the identification of barriers to CME, and suggestions for establishing CMEP in Aseer region. All questions in this part of the questionnaire were open-ended except one about their satisfaction with their medical knowledge scored on a three-point scale (2 =satisfied; 1=fairly satisfied; and 0=not satisfied). Data from this questionnaire were entered and analyzed by statistical package for social sciences (SPSS). Appropriate statistical tests were used and results considered significant when p-value was less than 0.05.

RESULTS
The total number of PHCC physicians in Aseer region was 383, and 331 (86%) of them answered this questionnaire. Those who did not respond were on annual vacation. Table 1 displays the socio-demographic and professional profiles of the physicians enrolled in this study. The mean age was 41±5.8 years; 85.5% were males, 76.1% were Arabs, 91.2% were married and 26.3% had postgraduate qualifications. Approximately sixty-nine percent had had no experience in the PHC field and 90.6% had worked in hospitals before coming to Saudi Arabia. It was also found that the mean duration of their employment in Saudi Arabia was 8.4 ± 6 years, and their intention to continue working at PHCCs was 4.1 ± 2.7 years.

Table 2 shows their attitudes to CME and their satisfaction with current medical knowledge. Over 64% of the physicians
stated that they had adequate time for CME; nearly 87% allocated time for medical reading; over 64% had a positive attitude towards participating as tutors in future CMEP; more than 93% felt that they needed additional training in PHC; and almost 50% recommended that CMEPs be established in the region. More than two-thirds of the physicians were satisfied with their current medical knowledge.

Table 1: Socio-demographic and professional profile of PHCC physicians in Aseer Region (N=331)

| Factor                              | No (%)     |
|-------------------------------------|------------|
| Age (mean 41 ± 5.8 years)           |            |
| Sex:                                |            |
| Male                                | 283 (85.5) |
| Female                              | 48 (14.5)  |
| Nationality:                        |            |
| Sudanese                            | 126 (38.1) |
| Egyptian                            | 100 (30.2) |
| Other Arabs                         | 26 (7.8)   |
| Indian                              | 46 (13.9)  |
| Bangladeshi                         | 18 (5.4)   |
| Pakistani                           | 14 (4.2)   |
| Marital Status:                     |            |
| Married                             | 302 (91.2) |
| Single                              | 29 (8.8)   |
| Postgraduate Qualification:         |            |
| Master                              | 56 (16.9)  |
| Diploma                             | 31 (9.4)   |
| None                                | 244 (73.7) |
| Past experience in PHCC outside Saudi Arabia: | 35 (10.6) |
| >= one year                         | 69 (20.8)  |
| No experience                       | 227 (68.6) |
| Past experience in hospital outside Saudi Arabia: | 14 (4.2) |
| >= one year                         | 286 (86.4) |
| No experience                       | 31 (9.4)   |
| Duration of employment              |            |
| 8.4 ± 6 yrs                         |            |
| Intention to continue working in PHCCs | 4.1 ± 2.7 yrs |

Statistical analysis showed that Non-Arabic physicians allocated more time for CME (83% vs. 56%; p=0.03) and were more satisfied with their current medical knowledge (78% vs. 63%; p=0.02) than the Arab physicians. However, Arab physicians showed a more positive attitude towards participating as tutors in future CMEP than did the Non-Arab doctors (65.8% vs. 52.5%; p=0.04).

Table 2: Attitude and satisfaction of PHCC physicians in Aseer region with CME

| Variables                              | No (%)     |
|----------------------------------------|------------|
| Adequacy of time for CME:              |            |
| Yes                                    | 213 (64.4) |
| No                                     | 118 (35.6) |
| Allocation of time for medical reading:|            |
| Daily                                  | 178 (53.5) |
| Weekly                                 | 103 (31.1) |
| Monthly                                | 7 (2.1)    |
| Not specified                          | 43 (13.0)  |
| Attitude towards participating in regional CMEP as tutor: | 213 (64.4) |
| Positive (Yes)                         | 118 (35.6) |
| Negative (No)                         |            |
| Feeling need for additional training in PHC field: | 309 (93.4) |
| In need                                | 22 (6.6)   |
| Giving suggestions to establish CMEP:  |            |
| Yes                                    | 163 (49.6) |
| No                                     | 168 (50.4) |
| Satisfaction with current medical knowledge: | 125 (68.0) |
| Satisfied                              | 65 (19.6)  |
| Not satisfied                          | 41 (12.4)  |

The practice of CME by the PHC physicians is summarized in Table 3. Medical journals were read by 80% of the physicians. On average, each PHC physician read 1.4 ± 1.1 medical journals; 41.4% read one journal, 23.6% read two journals, while 14.8% read more than two journals. Local periodicals such as Saudi Medical Journal and Annals of Saudi Medicine were read by 20% and 3%, respectively, while such inter-
national journals as Postgraduate Doctor, Practitioner, Medicine Digest, and British Medical Journal were read by 13.6%, 13%, 10.6%, and 3% of the physicians, respectively.

Table 3: Practice methods of CME mentioned by PHCC physicians in Aseer region (N=331)

| Methods                                      | No (%)          |
|----------------------------------------------|-----------------|
| Reading medical journals:                    |                 |
| One journal                                  | 137 (41.4)      |
| Two journals                                 | 78 (23.6)       |
| More than two journals                       | 49 (14.8)       |
| Did not read any journal                     | 67 (20.2)       |
| Attendance in training courses:              |                 |
| Quality assurance                            | 38 (11.5)       |
| Acute respiratory infections                 | 33 (10.0)       |
| Mental health                                | 19 (5.7)        |
| Maternity health                             | 13 (3.9)        |
| Bronchial asthma                             | 13 (3.9)        |
| Cardio pulmonary resuscitation               | 5 (1.5)         |
| Others                                       | 10 (3.0)        |
| Did not attend any course                    | 200 (60.4)      |
| Reading to prepare for Postgraduate degree:  |                 |
| General Medicine                             | 83 (25.1)       |
| Obs/Gyn                                      | 37 (11.2)       |
| Pediatrics                                   | 25 (7.6)        |
| Surgery                                      | 20 (6.0)        |
| PHC medicine                                 | 6 (1.8)         |
| Others (ENT, Eye, etc)                       | 7 (2.1)         |
| Not preparing for any degree                 | 153 (46.2)      |
| Resource usually consulted to solve patient problems:* |     |
| Medical textbook                             | 119 (36.0)      |
| Hospital consultants                         | 151 (45.6)      |
| Colleagues at PHC                            | 137 (41.4)      |
| Medical journals                             | 103 (31.1)      |

*some physicians mentioned more than one resource

The second practice of CME among PHC physicians was their attending relevant training courses conducted in the region during 1998. Forty percent stated that they had attended one training course. Quality assurance and management of acute respiratory infection courses were attended by 11.5% and 10% of the physicians, respectively. It was found that more male doctors attended training courses than female doctors (p=0.02).

Personal reading to prepare for postgraduate qualification was done by 53.8% of the physicians, while consulting medical textbooks and medical journals to solve daily practice problems was mentioned by 36% and 31.1%, respectively.

Table 4: Subjects mentioned by the PHCC physicians according to their personal and practice needs

| Subjects                                           | No (%)          |
|----------------------------------------------------|-----------------|
| Personal need:*                                    |                 |
| Emergency Medicine                                 | 81 (24.5)       |
| Pediatrics                                         | 69 (20.8)       |
| Internal Medicine                                  | 66 (20.0)       |
| Obs/Gyn                                            | 62 (18.7)       |
| Chronic disease (diabetes, hypertension, asthma)   | 56 (16.9)       |
| Surgery                                            | 32 (9.7)        |
| Others (Ophthalmology, ENT, Orthopedics)           | 10 (3.0)        |
| Did not specify any subject                        | 117 (35.5)      |
| Did not request                                    | 12 (3.6)        |
| Practice need:†                                     |                 |
| Learning computer                                  | 249 (75.2)      |
| Design and evaluate diabetes program               | 191 (57.7)      |
| Design and evaluate hypertension program           | 179 (54.1)      |
| Design PHCC action plan                            | 138 (41.7)      |
| Data interpretation                                | 123 (37.2)      |
| Writing research proposal                          | 108 (32.6)      |
| Research methodology                               | 92 (27.8)       |
| Reading medical journals                           | 64 (19.3)       |
| Critical appraisal medical articles                 | 37 (11.2)       |
|*as written by physicians                           |                 |
|†as selected by physicians from the list of nine topics |               |

Table 4 shows the topics that the PHC physicians identified as personal and practice needs. Emergency medicine, pediatric medicine, internal medicine, obstetrics/gynecology and surgery were mentioned by 24.5%, 20.8%, 20%, 18.7% and 9.7%,
respectively. On the other hand, 16.9% mentioned specific medical topics, such as diabetes, hypertension, and bronchial asthma. With regard to practice needs, 75.2% selected computer training; 57.7% and 54.1% selected diabetes and hypertension management programs; 41.7% selected learning how to design an action plan for PHCC; and 37.2% chose interpreting such data as ECG, X-rays, and other laboratory results.

Table 5: Barriers to and suggestions for CMEP mentioned by PHCC physicians in Aseer region (N=331)

| Barriers/suggestions                      | No (%) |
|------------------------------------------|--------|
| Barriers to CME                         |        |
| Lack of time                             | 37 (42.5) |
| Work overload                            | 24 (27.6) |
| Family and social obligations           | 26 (29.9) |
| Suggested methods for CMEP             | 163 (49.6) |
| Monthly meetings among PHCC physicians  | 67 (40.9) |
| Clinical rotation of PHCC doctors in hospitals | 33 (20.1) |
| Intensive course                        | 25 (15.2) |
| Provide PHCCs with relevant journals    | 23 (14.0) |
| Regular meetings between PHCC and hospital doctors | 16 (9.8) |
| Preferred methods for CMEP             |        |
| Clinical teaching at hospital           | 136 (41.0) |
| Case presentation                       | 83 (25.1) |
| Lectures                                | 30 (9.1) |
| Seminars                                | 30 (9.1) |
| Combined methods                         | 52 (16.7) |
| Preferred speakers in CMEP              |        |
| Consultants from hospital               | 84 (25.4) |
| Medical college staff                   | 54 (16.3) |
| Technical supervisors                   | 11 (3.3) |
| PHCC physicians                         | 1 (0.3) |
| Any capable tutor                       | 181 (44.7) |

Table 5 shows the barriers faced by PHCC physicians and their suggestions for establishing CMEP in Aseer region. Those who saw problems with CME were 26.3%; 42.5% and 27.6% of those barriers were related to lack of time and work overload, respectively. Not shown on the table, female doctors saw more barriers than their male counterparts (41.7% vs. 22.9%; p=0.001). About 50% of all physicians made suggestions for establishing a regional CME. For 40.9%, a monthly meeting among PHC physicians was deemed necessary; 20.1% suggested clinical hospital rotations; up to 15% suggested that they be given periodic intensive courses and that PHCCs be provided with relevant medical journals.

DISCUSSION

Most PHC physicians in Aseer region are male, married, non-Saudi and without post-graduate qualifications. These findings did not differ from those in other regions of Saudi Arabia.18 In this study, it was found that about 69% of the physicians did not have any experience in the field of PHC although 90.6% stated that they had worked in hospitals before coming to Saudi Arabia. However, past medical experience was not a requirement for PHC practice. To solve this problem, it is very necessary to train doctors on basic principles of PHC before they begin to practice. In addition, it was found that most of the physicians intended to work for 2-3 years, while more than 50% had worked in Aseer region for more than ten years. Based on these findings, it is suggested that conduction of a full CME program should not exceed more than two years.

The attitude of PHC physicians toward CME was good. More than 60% had adequate time; 87% had specified time for CME; and 64.4% stated that they wanted to participate in future CMEP as tutors. This encouraging attitude can help CMEP planners to establish a strong regional and sectoral CMEP through qualified tutors.

The majority of the PHC physicians indicated that they were satisfied with their current medical knowledge. However, 93% had expressed their need for additional
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training in PHC. This disparity could be due to the fact that there was little relationship between the physicians' current knowledge, their past experience and daily practice. This reinforces the importance of conducting practice based CME.

Reading medical journals and medical textbooks to prepare for post-graduate qualification and attending intensive courses were the most common methods of CME during the past year. The impact of such methods on the daily practice should be evaluated, considering that 45.6% stated that they referred to a hospital consultant when a routine practice problem needed to be solved.

About 26% claimed that certain problems prevented them from conducting or attending CME. This figure was less than that reported by Jarallah and Al-Shamari et al.7,8 Lack of time, work overload and family obligations were the most common barriers. To overcome these difficulties it was suggested that CME could be presented on Thursday mornings.

Clinical teaching in hospitals was the preference of 40%, while 10% suggested this for future CMEP. The reason for this difference could be due to the impression of PHC physicians that this would be hard to implement because of transportation and administrative difficulties. Some PHC physicians stated that they lacked such diagnostic and therapeutic skills as funduscopy and minor surgical procedures. In order to acquire these skills, it is necessary to create short hospital rotations for each physician according to his/her practical needs.

To get maximum benefit from hospital consultants and improve the knowledge of PHCC physicians and the referral system in the region, frequent medical meetings between hospital consultants and the PHCC physicians are strongly recommended.13

Most PHC physicians in Aseer region worked in hospitals. This may have affected their preference for the choice of persons to conduct CMEP. Less than 1% wanted PHC physicians as tutors, but 64% agreed to participate as tutors in CMEP. Many PHC physicians felt inadequate. The only means of changing this erroneous self-perception lies within the physicians themselves. Change can be achieved through the practice of real primary health care medicine, directing CME towards what is required in actual practice, in addition to the implementation of a patient-centered approach in management of cases rather than a hospital and disease-centered approach.8

The cornerstone of any future CMEP in Aseer region is content. In this study, it was found that most PHC physicians had the desire to learn emergency medicine, pediatrics, internal medicine, and surgery. When asked to select topics from a given list, computer, diabetes, hypertension, and research methodology were chosen by more than 50% of the respondents. To maintain a balance between personal learning and practice needs, it will be necessary to have a CME committee to assess and select topics relevant to practice and practical learning skills that relate to the common morbidity in the region. Subscription to primary health care related journals and the teaching of computer skills, including advantages of the internet in medical practice are recommended, particularly in keeping with the rapid growth of information in medicine.

CONCLUSIONS, RECOMMENDATIONS AND ACTION

This study showed that PHC physicians in Aseer region had a positive attitude towards CME needed CMEP. The content of CMEP should be in line with practice requirements. Various educational goals, such as acquisition of computer skills and the familiarity with the internet, and shorter hospital rotations could provide a helpful balance between the personal and practice needs. Based on the results of this study and
with the limited resources available, the investigators designed a CMP for PHC doctors in Abha and Khamis-Mushait cities. The topics of this program were selected to meet doctors’ demands and practice needs. Approved by the Saudi Council for Health Specialties, the program is conducted every Thursday at Prince Khalid Training Center in Abha city. Attendance at CMEP is strongly recommended as a requirement for renewal of the contracts of non-Saudi doctors and employment promotion for Saudi physicians.

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