ORIGINAL ARTICLE

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Evaluation of Experiences and Perceptions of Family Physicians on Continuing Medical Education and the Effect on Daily Clinical Practice

ABSTRACT

Objective: To develop, increase or to update the medical knowledge and skills for providing an effective healthcare service are aimed through continuing medical education(CME) activities. In this study, we evaluated the participation in CME activities and perceptions of family physicians about the effect of CME on their routine clinical practice.

Methods: A questionnaire composed of questions about sociodemographic characteristics and professional experience concerning CME was implemented to family physicians during three CME activities held in consecutive six months. An index about perceptions of participants about the effect of CME activities on their daily clinical practice was developed and a score ≥ 20 points was considered as "positive index score".

Results: A total of 247 family physicians, consisting of 112 family medicine residents,106 specialists and 29 general practitioners participated in the study. Economic reasons and time constraints were the most frequently mentioned barriers to participate in CME. Residents stated that CME was useful in the recognition of new medications(p=0.006). General practitioners reported that CME had more impact in early diagnosis and treatment(p=0.001). There was no difference between the reports of all groups on effects of CME on chronic disease follow-up(p=0.078). The rate of participants who had scores of ≥20 was %71, which revealed a positive perception on the impact of CME activities on their daily clinical practice.

Conclusions: Our study participant pyhsicians think that scientific activities and meetings improve their daily clinical practice. Time constraint and economic reasons were reported highly as barriers for attendance to CME. "Perceived impact of CME activities on daily clinical practice index" may be used for evaluation in different groups of participants and meetings with variable themes.

Keywords: Continuing Medical Education, Questionnaires, Family physician

Aile Hekimlerinin Sürekli Tıp Eğitimi ve Günlük Klinik Uygulamalara Etkisine İlişkin Deneyimlerinin ve Algılarının Değerlendirilmesi

ÖZET

Amaç: Sürekli tıp eğitimi etkinlikleri(STE) ile etkin bir sağlık hizmeti sunmak için gerekli bilgi ve becerilerin geliştirilmesi, arttırılması ile güncel tıbbi yaklaşımların kazandırılması amaçlanmaktadır. Bu çalışmada, STE etkinliklerine katılımları ile aile hekimlerinin STE etkinliklerinin rutin klinik uygulamalara etkileri ile ilgili algılarını değerlendirdik.

Gereç ve Yöntem: Çalışmada katılımcıların sosyodemografik özellikleri, STE ile ilgili profesyonel deneyimlerine yönelik sorulardan oluşturulan anket formu, ardışık altı ayda gerçekleşen Aile Hekimliği ile ilgili üç STE etkinliğine katılım sağlayan aile hekimlerine uygulanmıştır. STE aktivitelerinin günlük klinik pratiğe etkisi ile ilgili algılarının değerlendirildiği bir indeks oluşturulmuş ve ≥ 20 puan "pozitif indeks skoru" olarak kabul edilmiştir.

Bulgular: Çalışmaya 112 asistan, 106 uzman ve aile hekimi olarak çalışan 29 pratisyen hekimden oluşan toplam 247 aile hekimi katılım sağladı. Bilimsel etkinliklere katılmayı güçleştiren engeller en sık ekonomik sebepler ve zaman kısıtlılığı olarak belirtildi. Asistanlar STE nin yeni ilaçların tanınmasında daha yararlı olduğunu belirtti(p=0.006). Pratisyen hekimler, STE nin erken tanı ve tedavide daha etkili olduğunu bildirdi (p=0.001). Kronik hastalık takibi üzerine STE etkileri konusundaki tüm grupların bildirimleri arasında fark bulunmadı(p=0.078). STE etkinliklerinin günlük klinik pratiğe etkisine ilişkin olumlu algıyı gösteren ≥20 puanı olan %71 katılımcı bulunmaktaydı.

Sonuç: Çalışmamıza katılan hekimler, bilimsel etkinlik ve toplantıların günlük klinik uygulamaları geliştirdiğini düşünmektedir. Zaman kısıtlılığı ve ekonomik nedenler en sık STE ye katılımın önündeki engeller arasında belirtilmiştir. "STE etkinliklerinin günlük klinik pratik üzerine algılanan etkisi indeksi" farklı katılımcı gruplarında ve değişken temalı toplantılarda değerlendirme için kullanılabilir

Anahtar Kelimeler: Sürekli Tıp Eğitimi, Anket, Aile Hekimliği

INTRODUCTION

Preventive, diagnostic and therapeutic healthcare counseling and services which require adequate knowledge and clinical skills are offered to individuals of all age groups within the scope of family medicine. Primary care management, person-centered and continuous care, spesific problem solving skills, comprehensive and holistic approaches implementing a biopsychosocial model, and community orientation towards the health needs of community are defined as the core competencies of the discipline of family medicine / general practice. (1). In a qualitative study examining patient expectations about primary health care services in Turkey, it was concluded that patients have expectations that overlap with the defined core qualifications (2).

Family medicine (FM) residency has been established in 1987 in Turkey. Residents and specialist family medicine doctors as well as academicians work in family medicine clinics in universities and in training and research hospitals. The residents work in outpatient clinics of FM department and family medicine centers (FMC) established for training residents under the supervision of academicians. In primary care in Turkey, general practioners (GP), family medicine specialists and residents work in FMCs.

The patients have considered family physicians as physicians they could consult in their medical decisions and that they have expected the family physicians to make preliminary assessments of their health problems and then coordinate further medical care if necessary (2). There has been no referral chain established between primary care and other health institutions in our country yet. Therefore, we can assume that the patients have the same expectations from the family physicians who serve in the secondary and tertiary level hospitals as they examine the unselected patients.

In line with these expectations, continuing medical education meetings to keep the knowledge and skills up-to-date, to share changing knowledge and experiences and also developing technology regarding healthcare towards family physicians are organized. Continuing medical education (CME) involves courses, workshops, symposiums, panels, seminars, conferences and congress meetings organized to ensure the continuity of medical education and current scientific developments.

With the nationwide transition to family medicine health system in primary care in 2010, the diversity and number of conferences and congresses aimed at improving educational activities and the promotion of health care in primary care have increased.

Through decades, researchers have carried out studies on the effectiveness and evaluation as well as implications of CME (3). According to the theory of education, effectiveness increases when training is based on the experiences and needs of the learner (4). CME activities are intended to meet the needs of the learner and self-reports of the participants about the outcomes of CME and different methods and programs regarding scientific conferences and barriers for attendance to CME have been investigated in literature (5-7). In this study, we evaluated the factors influencing attendance to CME activities along with the experiences in CME and perceptions of family physicians attending the related CME activities about the effect of CME on their routine clinical practice.

MATERIAL AND METHODS

Study participants: This descriptive study was conducted in 6 months, with family physicians who attended scientific meetings, panels, symposiums and workshops organized by family medicine societies held in 3 provinces on issues related to family medicine. Health promotion, latest guidelines of management of chronic diseases, cancer screening, palliative and home-based care, planning and conducting a research, basic biostatistics, periodical examinations, management of pregnancy care in primary care, healthcare of children, adolescents and 15-49 years old women (reproductive age), elderly care and legal issues concerning family medicine, new treatments, interventions and technologies were the main topics covered in these congresses. Family physicians from different regions of the country gathered in these meetings. The inclusion criteria were to be a specialist or resident in family medicine or a general practitioner (GP) working in the family medicine system.

Study material: A questionnaire was developed by the researchers after an overview of the recent literature on continuing medical education (CME) The questionnaire was composed of multiple-choice, open-ended and Likert-type questions about sociodemographic characteristics, daily practice, professional experience, perceptions of participants concerning CME activities. After a brief description of the study, the questionnaires were handed out during the scientific activities and collected back on the same day. Informed written consents were obtained from the participants. The study was conducted in compliance with the Declaration of Helsinki. The hospital ethics committee for research has approved the study with the reference number 2016-595.

Index of the perceived impact of CME activities on daily clinical practice: In the questionnaire, there were 5 expressions about the CME activities and clinical practice and the participants rated these expressions in Likert-type from 1 to 5. These expressions were mainly on reports about perceptions of the participants about the reflection of CME into their clinical practice. We developed the Index of the perceived impact of CME activities on daily clinical practice based on

these 5 expressions, which are presented under Figures 1 and 2. The sum of the points gathered from these 5 expressions were accepted as the index score, which varies from 5 to 25. A score ≥ 20 points is considered as "positive index score", which revealed that the participants perceived that CME had a positive impact on their daily clinical practice. If the score was lower than 20, the participant perceived that the impact was low.

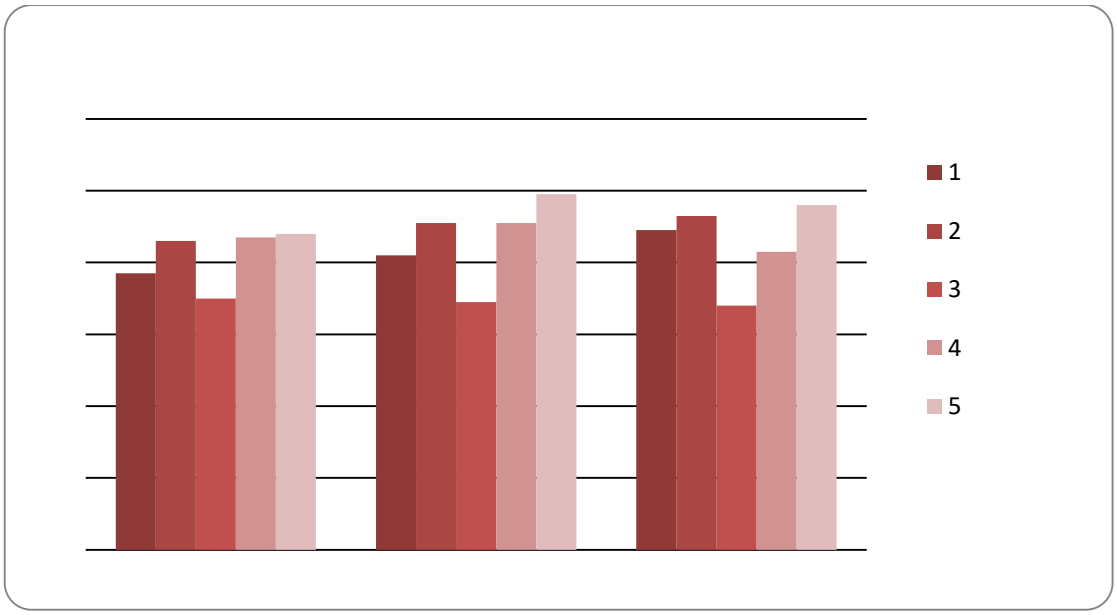

Figure 1. The positive scores according to the titles of the participants
FM:Family Medicine; GP:General Practioner.
1.I think that the scientific congresses and meetings I have participated in have a positive effect on my chronic disease follow-up.
2.I think that the scientific meetings I have participated in have enabled me to be more effective in early diagnosis and treatment.
3.I think that the scientific congresses and meetings I have participated in are useful for recognizing new medications.
4.I think that following scientific publications and conducting studies are effective on my professional practice.
5.I think that the scientific congresses and meetings I have participated in have a positive effect on my research practice.

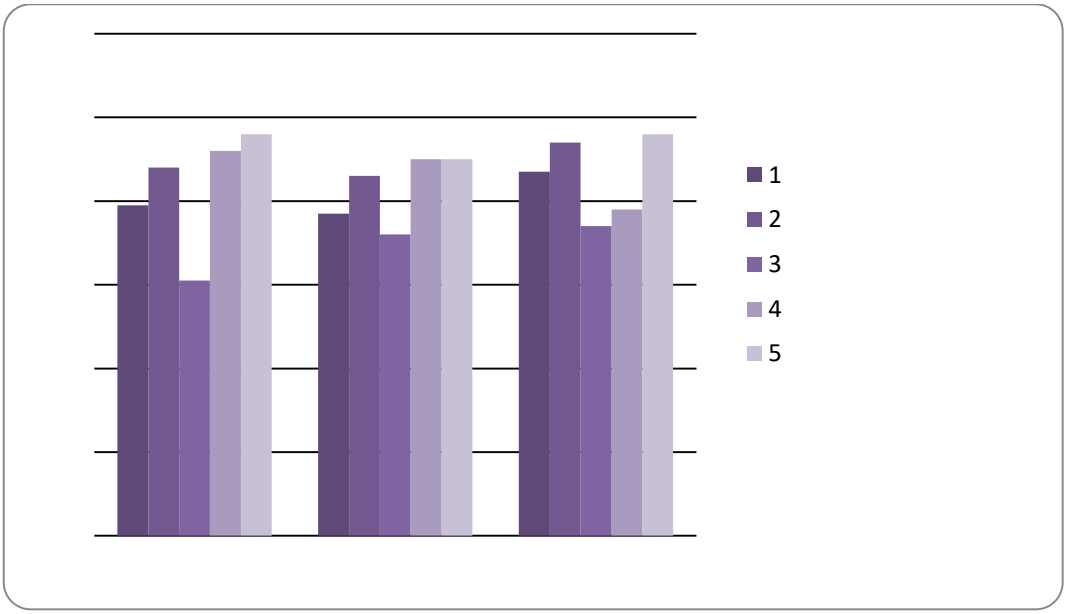

Figure 2. The positive scores according to the working places of the participants
FMC:Family Medicine Center.
1.I think that the scientific congresses and meetings I have participated in have a positive effect on my chronic disease follow-up.
2.I think that the scientific meetings I have participated in have enabled me to be more effective in early diagnosis and treatment.
3.I think that the scientific congresses and meetings I have participated in are useful for recognizing new medications.
4.I think that following scientific publications and conducting studies are effective on my professional practice.
5.I think that the scientific congresses and meetings I have participated in have a positive effect on my research practice.

The participants were grouped according to their working places as FMC, medical faculty, training and research state hospitals and private institutions and whether they are specialist or resident doctors or GPs. We evaluated the sociodemographic factors of the participants, the answers to the questions and the index scores.

The Student t test and chi square tests were used to analyze the variables. $p<0.05$ was accepted as the significance level.

RESULTS

Sociodemographic characteristics: A total of 247 doctors participated in the study. The participants included 112 residents, 106 specialists and 29 general practitioners. The mean age of all participants was 37.11 ± 9.87 years and the mean professional period was 12.30±9.86 years; the former and the latter were significantly lower in the resident group than that of the specialist and GP groups (p=0.001, p=0.001; respectively). There were 88 people aged 25-29 years, 65 people aged 30-39 years, 60 people aged 40-49 years and 34 people aged 50-64 years.

Participants were most frequently employed in training and research state hospitals (n=120; 48.6%). Male gender was significantly lower among those who were employed in medical faculties (p=0.001) (Table 1).

Participation in CME: The most frequent attendance to CME activities was 1-2 times a year (51.4%; n=127). Economic reasons followed by time constraint were chosen as the most frequent barriers. (Table 2). Time constraint as a barrier was less chosen by employees in FMC (p=0.008) and those who were over age 50(p=0.017). The barriers concerning location (travelling distances and transportation) were mentioned by women more than men (p=0.022). Economic reasons were mentioned by participants over 50 years old more than the other age groups(p=0.024). Time constraint was mentioned less by GPs (Table 2).

Among all participants 73% have reported that they were supported for participation in scientific meetings by the institution where they worked. GPs and residents reported this more than the family medicine specialists (p=0.002; p=0.001).

Table 1. Sociodemographic characteristics of the participants (n=247)

	Family Physicians				*Workplace*				
	Resident	***Specialist***	***GP***	***P****	***FMC***	***Training and Research State Hospital***	***Medical Faculty***	***Other (private)***	***P***
Gender				***0,001***					***0,001***
Men	*37*	*47*	*2*		*17*	*71*	*42*	*6*	
Women	*75*	*59*	*27*		*37*	*49*	*20*	*5*	
Age				***0,001***					***0,001***
	28,7±3,4	43,4±7,8	46,1±7,8		*43,7±8,4*	*32,1±7,4*	*39,3±10,2*	*46,1±8,5*	
Professional period				***0,001***					***0,001***
	3,7±2,3	*18,9±7,9*	*20,4±7,5*		*18,7±8,4*	*7,1±7,2*	*14,9±9,8*	*22,2±9,4*	
Attendance to CME				*0,081*					*0,113*
1/month	*14*	*10*	*0*		*1*	*17*	*4*	*2*	
6-8/year	*8*	*14*	*0*		*1*	*7*	*4*	*0*	
4-6/year	*21*	*35*	*6*		*13*	*28*	*20*	*1*	
1-2/year	*58*	*52*	*17*		*32*	*56*	*32*	*7*	
1/two years	*11*	*5*	*6*		*7*	*12*	*2*	*1*	
Total	***112***	***106***	***29***		***54***	***120***	***62***	***11***	

GP:General Practioner; FMC:Family Medicine Center

Table 2. Barriers to participation in CME activities

Barriers	***Resident N(%)***	***Specialist N(%)***	***GP* N(%)***	***P N(%)***	***Total N(%)***
Time constraint	*46(41,1)*	*45(42,5)*	*2(9,5)*	***0,008***	*93(37,6)*
Economic reasons	*59(52,7)*	*73(68,9)*	*15(71,4)*	***0,072***	*147(59,5)*
Administrative reasons	*40(35,7)*	*45(42,5)*	*3(14,3)*	***0,084***	*88(35,6)*
Transportation difficulties(location)	*23(20,5)*	*12(11,3)*	*1(4,8)*	***0,069***	*36(14,6)*

Around 67.2% reported that they were attending the meetings and workshops organized for development of FM procedures and participants working in medical faculties were significantly more among them (p=0.006). Also 64% reported that they were encouraged to participate in scientific studies by their peers and residents were significantly more among them (p=0.001).

Routine daily practice: The frequeny of admittance of patients aged between 0-5 years, women between 15-49 years of age and geriatric patients were reported by 36.4%, 82.2% and 76.9% of the participants respectively. The patients aged 0-5 years and women between 15-49 years were examined significantly more in FMC than in other institutions (p=0.001; p=0.018).

It was reported by 72.1% of the physicians that they were providing preventive healthcare services (health education and counseling, screening and immunization procedures) in their institution and among them physicians working in FMC and resident doctors were significant (p=0.001, p=0.002; respectively).

There were 56.6% participants who reported that they could follow scientific publications and journals as much as they needed and specialists were significantly more among them (p=0,001).

Perceived impact of CME activities on daily clinical practice index scores: The answers to 5 index questions were compared between groups (Figure-1; Figure-2). The mean score of the whole group was 20.35±2.85 and 175 participants (71%) had scores ≥ 20 which revealed a positive perception on the impact of CME activities on their daily clinical practice. There were no differences between the mean index scores of residents, specialists and GPs. The index scores were higher as the professional period increased(p=0.001). Although not significant, the number of women participants, younger physicans, specialists and participants working in training and research hospitals were more in the group with positive index scores (Table 3).

Among total participants, 89% thought that scientific meetings they have participated have enabled them to be more effective in early diagnosis and treatment. GPs reported that the CME meetings in which they participated had more impact in early diagnosis and treatment than the other groups (p=0.001).

In the whole group, those who thought that scientific congresses and meetings they have participated in positively affected their chronic disease follow-up were 81%. There was no

Table 3. Positive index scores and characteristics of the participants

Variables	*Positive Index scores* n=175 (100 %)*	*p*
Gender		
Women	*99 (57 %)*	
Men	*76 (43 %)*	*0.457*
Age groups		
25-29	*62 (35 %)*	
30-39	*42 (24 %)*	
40-49	*47 (27 %)*	
50-64	*24 (14 %)*	*0.406*
Title		
Specialist	*80 (46 %)*	
Resident	*74 (42 %)*	
General practioner	*21 (12 %)*	*0.306*
Workplace		
University Hospital	*44 (25 %)*	
Training and Research Hospital	*83 (47 %)*	
Family Medicine Center	*38 (22 %)*	
Other	*10 (6 %)*	*0.419*
Patient profile intensity*		
Patients under 5 years	*62 (35 %)*	*0.609*
Women patients 15-49 years	*146 (83 %)*	*0.432*
Geriatric patients	*137 (78 %)*	*0.432*
Attended meetings in a year		
10-12	*19 (11 %)*	
6-8	*9 (5 %)*	
4-6	*47 (27 %)*	
1-2	*84 (48 %)*	
1 in 2 years	*16 (9 %)*	*0.543*

**Positive index scores are ≥ 20*

difference between the reports of all groups on the effects of CME on chronic disease follow-up(p=0.078).

Scientific congresses and meetings were found useful for recognizing new medications by 70% of participating physicians. The residents stated that these meetings were more useful in the recognition of new medications (p=0.006).

Participants who thought that following scientific publications and conducting studies were effective on their professional practice were 93.4% and there were no differences between the groups(p=0.116). Those who thought that scientific congresses and meetings they have participated in have a positive effect on their research practice were 87.7 % and there were no differences between the groups(p=0.059).

DISCUSSION

In the concept of family medicine, acute and chronic health problems of the patients are managed simultaneously within a comprehensive approach. Family physicians are expected to perform necessary screening procedures effectively, coordinate healthcare and palliation with other health professionals, implement interventions for early diagnosis and treatment in addition to guiding health promotion activities in their daily practice (1). According to the index scores, 71% of all participants perceived that CME activities had positive impact on their clinical practice. In this study, patient profile of the participants is diverse as expected and consists of women in the reproductive period, geriatric patients and younger children, respectively.

Participants stated that the least frequently admitted patients were the 0-5 years age group. As there is no referral chain, the younger children may visit pediatricians in the secondary level hospitals more frequently. Our participants benefited from CME activities especially in the follow-up of chronic diseases and screening, diagnostic and treatment procedures.

As Reed et al have pointed out in their study based on surveys, if participants are aware of their needs in learning the self reported outcomes are better (6). GPs mentioned the effect on early diagnosis and treatment procedures while residents, who are in the early phases of their profession, have emphasized the recognition of new medications as expected from young professionals. Similarly, in a study conducted in India about preferences of physicians concerning CME, disease guidelines, new drugs/devices/interventions and good clinical practice guidelines were found as the most preferred topics to discuss (88%,86% and 85%; respectively) (8).

Family physicians are expected to have an active role in screening and early diagnosis. The need for CME has been highlighted in a review on the role of primary care physicians in diagnosis and management of gastrointestinal system (GIS) diseases and cancers for keeping up-to-date knowledge on clinical guidelines and managing patients with GIS diseases (9). Improving and maintaining clinical performance are the main objectives of CME; therefore; in primary care, it has been suggested that continuing medical education issues should focus on clinical practice (10) then it would be easier to reflect the CME activities on daily practice. However, in literature, it was reported that improvements in patient outcomes may not be as effective as it was expected to be (11). The educational methods used in CME activities may make the difference between the outcomes. It has been reported in the last decade that medical education meetings alone and in combination with other methods may contribute to the development of professional clinical practice and health outcomes (11).

Different educational initiatives such as clinical practice-based learning and interactive training meetings were found to be the most effective methods. Among the least effective ones, lecturing in the classical course format and distributing printed materials, which are also the most commonly used methods in continuing medical education, were mentioned (12). Another finding is that interactive and didactic education meetings held together were more effective than either of them (11). Saha et al have emphasized the need for a focused programme about specific topics in little groups in the lecture form for participants who have had qualified health education (5).

Physicians in the present study, highly perceived that following scientific publications and conducting studies were effective on their practice. In a qualitative study, it was concluded that clinical meetings and journals prepared for change rather than the changing of the prescriptions of general practitioners (13). In our study, family physicians perceived that their research practice was positively affected by CME. We may conclude that following publications and being involved in studies raises awareness and prepares for change.

According to a former review; professionals were interested in practical approaches to solve a problem and that experiences and findings of other researchers gain importance, but expect that the time they spend will provide maximum benefit in terms of education (14). Concerning our participants, as the experience in the profession increased, doctors have become more aware of the benefits of CME.

Although the benefits of CME activities were apparently perceived by the participating physicians, barriers to attend the CME activities were also highly expressed. The most frequently mentioned barriers that made it difficult to participate in CME activities were economic reasons, time constraints and administrative permits which are compatible with recent studies in literature (7,15). Especially after 50 years of age

priorities may change. Economically and timely affordable CME activities may increase attendance.

Around 67% of participants reported that they were attending the meetings and workshops organized for development of FM procedures and 64% reported that they were encouraged to participate in scientific studies by their peers. In a review, the participation in the CME was 80% in only 54% of the studies included and the remaining 46% of studies reported that the participation was not that much. As the attendance of the target population decreases, the effect on professional practice is expected to decrease (11). Self-motivation is also an effective factor in participation to CME and if followed by needs assessment and a personal learning plan prior to the meetings, participation may also increase (6,16). Among all participants 73% of them, mainly GPs and residents, have reported that they were supported for participation in scientific meetings by the institution where they worked. This is compatible with literature, in India for example, it is mandatory to attend CME to recertificate for continuity of comprehensive professional development (15). Institutional support attenuates participation in CME activities.

CONCLUSION

Family physicians believe that scientific activities and meetings contribute to and improve daily clinical practice. In this study, even if our participants are encouraged to attend to scientific meetings, time constraint and economic reasons were reported highly as barriers for attendance. Differences in age, place of work, expectations of the patients and professional experience can also effect both the attendance and reflection of CME in routine clinical practice. Perceived impact of CME activities on daily clinical practice index may be used for evaluation in different groups of participants and meetings with variable themes.

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