

Continuing Medical Education, Utilization and Sources among Primary Health Care Physicians in Jeddah, Saudi Arabia.

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ABSTRACT: *Objectives:* To evaluate the utilization of continuing medical education (CME) among physicians working in Primary Health Care Centers (PHC), Jeddah, Saudi Arabia. *Methods:* Through a cross sectional analytic study design and using a pre-designed self-administered questionnaire, all physicians working in PHC of Ministry of Health (MOH), Jeddah were invited to be enrolled in the study (n=150). *Results:* The response rate was 91.3%. Lectures are the most popular source of CME credits for majority of physicians (90.5%) followed by workshops (67.2%). Lectures were significantly more preferred by females (p<0.05), while reading medical journals as a main source of CME credits was significantly more preferred by older physicians, those who were graduated since five years or older; and those who were working as specialists or consultants (p < 0.05). It was evident that rarity or absence of subscriptions in licensed medical website either at the institute or individual level represented the main obstacle in achieving updated continuing medical education. *Conclusion:* Our physicians had a positive attitude towards CME activities and they were actively participating in these activities. We recommend that medical institutes including PHC should be provided with facilities enabling physicians to access medical sites on the internet.

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Introduction:

The term Continuing Medical Education (CME) consist of many activities which assist health professionals to increase their knowledge and skills and to improve their professional performance.⁽¹⁾

Physicians may engage in many medical educational activities which however not considered CME, as these activities are not related directly to their professional work. Educational activities such as appreciation of literature or those meant to increase personal financial planning are not CME, as these are not designed to increase physician's professionalism.⁽¹⁾

Continuing medical education is not a new concept. Since the start of medical colleges and teaching hospitals, physicians and other health professionals organized conferences and meeting to update their knowledge and exchange experiences with their peers.⁽²⁾

Many other forms of CME as grand rounds, case discussions, and meetings to discuss published medical papers constituted the continuing learning experience.⁽³⁾

For a long time, CME was sponsored by the pharmaceutical industry. Fears regarding intentional or unintentional bias led to increasing scrutiny of the CME funding sources. This led to the establishment of

certifying agencies such as the Society for Academic Continuing Medical Education, which is an umbrella organization representing medical associations and bodies of academic medicine from the USA, Canada, England and Europe.⁽⁴⁾

While the undergraduate education is adherent only to increasing the knowledge and skills, CME go beyond that to improving health workers competence and performance in practice, ultimately leading to better health care quality. There are some evidences suggesting that interactive sessions can change professional practice.⁽⁵⁾ Practically, all active health workers need to continue to learn through education and information.⁽⁶⁾

The objectives of our study were to determine the main sources of CME commonly used by primary health care physicians in Jeddah and to identify the hindrances and the related factors among the same study group and in the same period.

Material and Method:

This is a cross sectional analytic study, where all the Primary health care (PHC) physicians working in Ministry of Health (MOH) were eligible for inclusion in the study.

According to the most recent data, there are 150 PHC physicians working in 40 PHC centers of MOH in

Jeddah that are geographically distribution over 5 sectors; each sector encompasses 8 centers, we include all of them in our study.

A self-administered questionnaire was distributed to them. The questionnaire records the demographic data such as age, gender, nationality and data of postgraduate study. It also includes closed questions that evaluate PHC physicians' awareness of the importance of CME as well as the main hindrances that are facing them to obtain sufficient CME. The dependent variables were represented by the respondent utilization of CME and perceived obstacles for inclusion in CME activities. Data analysis done after all questionnaire items were coded and entered to a personal computer using Statistical Package for Social Science software (SPSS version 16).

Analysis:

One hundred thirty seven PHC physicians responded and return the questionnaire, making the respond rate as 91.3 %.

Table. 1 shows that almost half of the physicians (47.4%) were in the age group 30-40 years; the majority were Saudi (73%) and 65.7% were females. More than three quarters were residents' physicians (78.8%), and 28.5% were family physicians. Almost two thirds of the participants (60.6%) were graduated during the last 10 years, and the majority of them (75.2%) were working in the PHC centers for less than 10 years.

The most popular source of CME credits for the physicians was the lectures (90.5%) followed by workshops (67.2%), medical journals were the least frequently favored source for CME credits (28.5%).

The results also showed that 17.5% of the physicians depend only in one source for CME credits and 43.8% depend on two sources, while (38.7%) depend on three or more sources for CME credits.

Which sources of CME credits preferred by PHC physicians were illustrated in table 2. It obviously shows that the lectures were more preferred by females (94.4%) than males (83%), and this is statistically significant (P value = 0.030). It was noted that the longer the duration of working in the PHC centers, the more likely to attend workshops (P value = 0.008). Medical journals as a main sources of CME credits was significantly more preferred by older physicians (aged 30+ years) and who were graduated since five years or more; and those who were specialists or consultants, especially family physician

specialists and this was statistically significant($p < 0.05$).

On the other hand, it was remarkably shown that there was no statistical significant differences among the physicians regarding their preferences on browsing medical websites as sources for CME credits ($p > 0.05$).

Table 1:- Demographic characteristics of the study group (n=137).

Characteristics of the physicians	No.	%
Age group in years:		
<30 years	35	25.5
30-<40 years	65	47.4
40+ years	37	27.0
Mean \pm SD	35.1 \pm 7.9	
Gender:		
Male	47	34.3
Female	90	65.7
Nationality:		
Saudi	100	73.0
Non Saudi	37	27.0
Job title:		
Resident	108	78.8
Specialist	20	14.6
Consultant	9	6.6
Specialty:		
Family medicine	39	28.5
General practitioner	89	65.0
Others	9	6.6
Duration since graduation:		
<5 years	38	27.7
5 - <10 years	45	32.9
10+ years	54	39.4
Duration of working in PHC:		
<5 years	81	59.1
5 - <10 years	22	16.1
10+ years	34	24.8

Why physicians participate in CME activities was analyzed in Table 3; which revealed that only being Saudi increases the likelihood of sharing in CME activities to break the routine of work if compared to the non-Saudis ($p < 0.05$). Otherwise no statistical significant differences were detected among physicians regarding the other factors $p > 0.05$.

Table 2:- Preferable sources of CME credits by the physicians.

Characteristics of the physicians	Sources of CME credits							
	Lectures		Workshops		Medical websites		Medical journals	
	N	%	N	%	N	%	n	%
Age group in years:								
<30 years	35	92.1	22	62.9	13	37.1	3	8.6
30 - <40 years	38	84.4	40	61.5	37	56.9	23	35.4
40+ years	51	94.4	30	81.1	14	37.8	13	35.1
*P value	NA		0.107		0.075		0.010	
Gender:								
Male	39	83.0	27	57.4	21	44.7	14	29.8
Female	85	94.4	65	72.2	43	47.8	25	27.8
*P value	0.030**		0.080		0.730		0.805	
Nationality:								
Saudi	92	92.0	71	71.0	44	44.0	24	24.0
Non Saudi	32	86.5	21	56.8	20	54.1	15	40.5
*P value	0.328**		0.115		0.295		0.057	
Job title:								
Resident	97	89.8	70	64.8	46	42.6	25	23.1
Specialist	18	90.0	14	70.0	13	65.0	11	55.0
Consultant	9	100.0	8	88.9	5	55.6	3	33.3
*P value	NA		0.322		0.157		0.014	
Specialty:								
Family medicine	35	89.7	29	74.4	22	56.4	18	46.2
General practitioner	81	91.0	58	65.2	42	47.2	20	22.5
Others	8	88.9	5	55.6	0	.0	1	11.1
*P value	NA		0.444		NA		0.012	
Duration since graduation:								
<5 years	35	92.1	25	65.8	12	31.6	4	10.5
5 - <10 years	38	84.4	25	55.6	25	55.6	15	33.3
10+ years	51	94.4	42	77.8	27	50.0	20	37.0
*P value	NA		0.063		0.076		0.014	
Duration of working in PHC:								
<5 years	70	86.4	46	56.8	33	40.7	19	23.5
5 - <10 years	22	100	18	81.8	12	54.5	10	45.5
10+ years	32	94.1	28	82.4	19	55.9	10	29.4
*P value	NA		0.008		0.240		0.127	

* Chi Square test **Fisher exact test; NA Not applicable

Table 3:- Reasons for participating in CME activities

Characteristics of the physicians	Reasons for participating CME activities							
	Improve knowledge / skills		Renewal of the SCHS license		Break routine of work		Meet colleagues	
	N	%	N	%	n	%	n	%
Age group in years:								
<30 years	34	97.1	10	28.6	12	34.3	5	14.3
30-<40 years	57	87.7	22	33.8	17	26.2	9	13.8
40+ years	37	100.0	13	35.1	4	10.8	1	2.7
*P value	NA		0.816		0.058		NA	
Gender:								
Male	42	89.4	15	31.9	7	14.9	4	8.5
Female	86	95.6	30	33.3	26	28.9	11	12.2
*P value	0.165**		0.867		0.069		0.509	
Nationality:								
Saudi	92	92.0	34	34.0	30	30.0	12	12.0
Non Saudi	36	97.3	11	29.7	3	8.1	3	8.1
*P value	0.245**		0.637		0.008		0.381**	
Job title:								
Resident	99	91.7	37	34.3	26	24.1	10	9.3
Specialist	20	100.0	5	25.0	4	20.0	3	15.0
Consultant	9	100.0	3	33.3	3	33.3	2	22.2
*P value	NA		0.657		0.740		NA	
Specialty:								
Family medicine	38	97.4	8	20.5	9	23.1	7	17.9
General practitioner	81	91.0	33	37.1	23	25.8	8	9.0
Others	9	100.0	4	44.4	1	11.1	0	.0

*P value	NA		0.138		0.606		NA	
Duration since graduation:								
<5 years	36	94.7	11	28.9	13	34.2	3	7.9
5-<10 years	41	91.1	12	26.7	10	22.2	6	13.3
10+ years	51	94.4	22	40.7	10	18.5	6	11.1
*P value	NA		0.277		0.209		NA	
Duration of working in PHC:								
<5 years	75	92.6	26	32.1	21	25.9	9	11.1
5-<10 years	19	86.4	11	50.0	7	31.8	4	18.2
10+ years	34	100.0	8	23.5	5	14.7	2	5.9
*P value	NA		0.117		0.286		NA	

* *Chi Square test;*** *Fisher exact test;*NA: *Not applicable*

Table 4 illustrates the items expected to potentiate physicians' participation in CME activities. It was evident that the main obstacle were the rarity or absence of subscriptions in licensed medical website either at the institute or individual level and rarity of access to internet in the institute came as top obstacles for participating in CME activities. On the other hand, the least to cause obstacles for their participation were availability of transportation, expenses of the activities and interestingness of the CME activities.

Table 4:- The items potentially affecting the physicians' participation in CME activities.

Items affecting participation in CME activities	Always or sometimes	Rarely or never
The institute has subscription to medical journals	38(27.9%)	98(72.1%)
Have personal subscription to medical journals	43(31.6%)	93(68.4%)
The administration update physicians regularly with a calendar of CME activities	46(33.8%)	90(66.2%)
Have access to internet in the institute	46(34.1%)	89(65.9%)
The administration fund attendance in CME activities	59(43.7%)	76(56.3%)
The administration encourage physicians to attend CME activities	59(43.7%)	76(56.3%)
The administration allow to attend CME activities	79(58.5%)	56(41.5%)
Have personal access to internet	84(62.2%)	51(37.8%)
Have enough time for CME activities	86(62.8%)	50(36.8%)
Availability of transportation to attend CME activities	100(74.1%)	35(25.9%)
Perceive that CME activities are expensive	123(91.1%)	12(8.9%)
Topics of CME activities are interesting	127(94.1%)	8(5.9%)

Discussion:

The ultimate goal of CME is to improve the quality of health care, it aims at updating doctors' professional knowledge and skills, and it has obvious implications on doctors' attitudes and behavior.⁽⁷⁾ There are variant sources of CME. In accordance with what was found among Norwegian physicians where 82.4% of them indicated that they lay much concern on attending CME congress courses.⁽⁸⁾ These findings come in accordance with our results which showed

that the majority of our physicians are more concerned about being updated through attendance of traditional congress training activities like lectures (90.5%) and workshops (67.2%). However, it contradict the findings shown in Iran 2009, which reported that the traditionally lecture-based CME is mostly not successful, therefore they are shifted to the outcome-based approach as a more effective intervention.⁽⁹⁾ In addition to the significant scientific impacts of workshops and lectures,^(10;11) the preference of our physicians in attending such congresses could have an additional explanation which is represented by earning CME hours that is considered as an essential prerequisite for renewal of the license in the Saudi commission for health specialists, the earned credits from congress courses is much higher than that it could be collected from other activities as reading journals or browsing internet CME activities. The compulsory continuing medical education has been adopted in many countries worldwide to ensure a commitment to lifelong medical learning and professional development.⁽¹²⁾ For this reason, almost one third of the physicians (32.8%) addressed that they attend CME activities just to earn hours for renewal of the license.

Generally, female physicians were more likely to attend CME activities than males especially lectures where the difference showed statistical significance; the same was observed in a study conducted in Canada, 2007, where it was found that participants in continuing medical education were more likely to be female ($P = 0.03$), in a smaller center ($P = 0.05$), recent medical graduates ($P = 0.001$) and seeing fewer patients per month.⁽¹³⁾ The same could apply on our results which is potentiated by the preponderance of female physicians in PHC centers in Jeddah, where they represented almost two thirds of all physicians.

The Internet is used in most professional domains, but its use for continuing medical education is less developed. Researches and meta-analyses have shown that e-CME is as effective as live events for immediate and retained learning.⁽¹⁴⁾ Regarding the most frequently used source of CME, almost one half of our physicians (42.6%) indicated that they are

always browsing medical information on the internet in addition to 41.2% of them pointed that they are doing so sometimes. These findings are almost similar to what was documented in France where it was cited that the majority of the physicians (78.6%) are frequently updating their information through web based medical sites.⁽¹⁴⁾ This popularity of using internet as a frequent source of CME is supported by the widespread availability of internet access at homes and several public places. Nevertheless, it was expected that the frequency of using internet for CME activities would be higher if it is available at primary health care centers, as it was evident, according to response of our physicians, that rarity or absence of subscriptions in licensed medical website at the institute came as top obstacle for participating in CME activities.

Conclusion:

Physicians in our study had a positive attitude towards CME activities and they were actively participating in the available activities especially females, younger physicians and family medicine specialists. Positively, the main reasons for attending these activities were updating their information followed by earning credit hours needed for renewal of their license. The majority of our physicians were using internet as the most frequently handled source for CME, nevertheless, the percentage would be higher if the internet services were made available in the work site.

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