

## Assessing the gap between current and desirable needs in TUMS\* CME Unit: participants' viewpoints

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### ABSTRACT

**Background:** Given the limited resources for medical education it seems reasonable to specify the exact educational needs and make sure that these needs are met. In this respect determining priorities and appropriate educational strategies and teaching methods allows for optimum use of limited available resources.

**Purpose:** To determine the perceived educational priorities and effective educational methods for five groups of medical care providers with respect to their views.

**Method:** A cross-sectional study was conducted to determine the perceived knowledge, and preferences of the participants. Five valid and reliable questionnaires were developed, verified by 4 CME experts, filled out during the planned programs and on receiving their temporary or final certificates by each participant in the relevant subgroup. SPSS 9.0 was used for the analysis of collected data.

**Results:** Of the 3300 medical care providers who received the questionnaires, 2687 filled them out. The overall response rate was 81%. Educational needs based on the priorities in the questionnaires included required educational methods and techniques for the five subgroups and specific priorities for each subgroup. Among the most requested methods were: lectures accompanied by video (54.1%), lectures followed by questions and answers (49.3%), case presentations (37.5%), educational workshops (37.4%), education through the internet (26.4%), conventional lectures (23.9%), morning reports (16.4%), and education in the field (15.1%).

**Conclusion:** Demographic characteristics were relevant to determine educational priorities and learning methods. For the most-preferred learning needs, the five subgroups suggested different topics. The observation suggests that the participants assess their learning needs closely related to their perceived job requirements.

However, these perceived needs may not be well related to the participants, actual level of knowledge or skill

**Key words:** NEEDS ASSESSMENT, CONTINUES MEDICAL EDUCATION (CME)

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### Introduction

Given the limited resources for medical education it seems reasonable to specify the exact educational needs and make sure that these needs are met. In this respect determining priorities and appropriate educational strategies and teaching methods allows for optimum use of limited available resources. This holds true for all branches of medical education: post graduate, undergraduate, and continuing medical education.

On the other hand, there is an increasing demand for greater accountability and responsiveness from medical staff and CME programs are challenged to ensure that medical staff educational needs required for high standard of performance are met. In practice, however, we find the concept of need emerging from adult education practice one of the most widely used yet poorly understood in adult and continuing learning. "It is the most deceptively complex, basically significant, and far reaching in its implications of all major terms in the

vocabulary of the adult educator," say Aherne, Lamble, & Davis (2001). It is a difficult area of theory and practice and quite often confusing. Some writers have attributed the confusion to lack of a generally accepted, useful, and substantive definition of need. We used the term here to refer to the gap between current situation and the more desirable situation from the viewpoint of the participants in the CME programs. Needs assessment, we believe, provides justification for allocating resources to program development. The challenge for CME planners is not only to assess whether topics, time, etc. are appropriate but also to ask whether the educational methods are effective or should be adjusted to the participants learning preferences.

This study is an attempt to determine the perceived educational priorities and effective educational methods for five groups of medical care providers (pediatricians, general practitioners, general dentists, general pharmacists, and medical lab specialists).

## Materials & methods

A cross-sectional study was conducted to determine the perceived knowledge, skill gaps, and the preferences of the participants in Tehran university of medical sciences and health services' CME unit in 2002. This project was supported financially by CME office of Ministry of Health. Five valid and reliable questionnaires were developed and verified by 4 CME experts, and filled out during the planned programs and on receiving their temporary or final certificates by each participant in the relevant subgroup. The questions included covered four major areas: the demographic data; the most-preferred topics relevant to daily practice for each subgroup; the preferred educational methods and techniques for all the five groups and the specific priorities for each subgroup; and the current CME most appropriate educational programs. The data were collected and the SPSS vers 9.0 was used for data analysis.

## Results

Of the 3300 medical care providers who received the questionnaires, 2687 filled them out. The overall response rate was 81%. The demographic characteristics of five groups were shown in table 1. Educational needs based on the priorities in the questionnaires included the required educational methods and techniques for the five subgroups as well as the specific priorities in terms of topics for each subgroup.

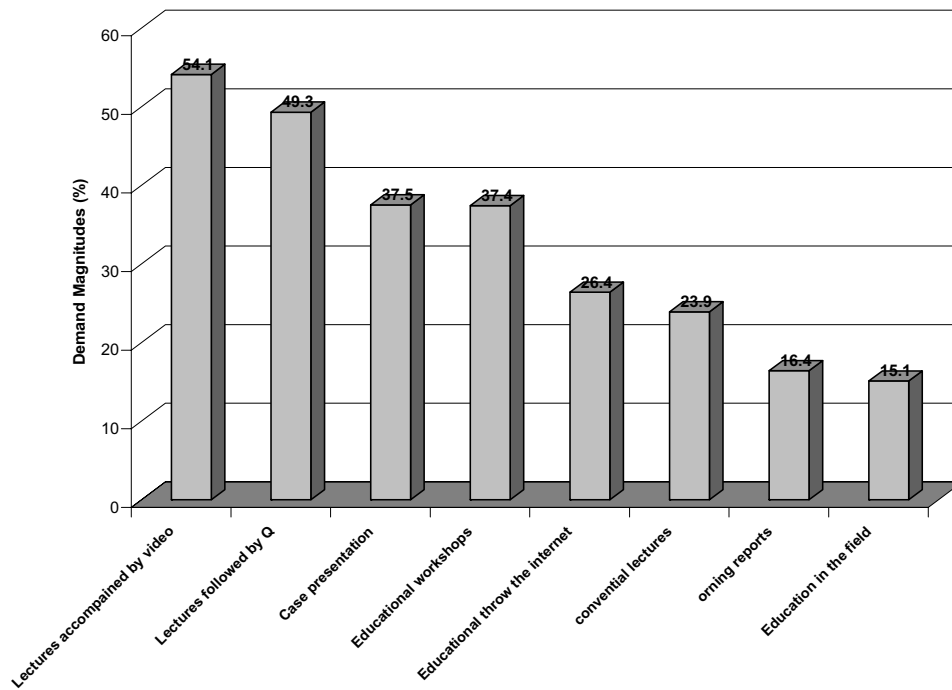
Among the most requested methods were: lectures accompanied by videos (54.1%), lectures followed by questions and answers (49.3%), case presentations (37.5%), educational workshops (37.4%), education through the internet (26.4%), conventional lectures (23.9%), morning reports (16.4%), and education in the field (15.1%) (fig. 1).

The most important priorities of CME educational programs were: planned programs (55%), self-teaching books and journals (43%), seminars and congresses (32.1%), and self-teaching audio-video cassettes (21.5%) (fig. 2).

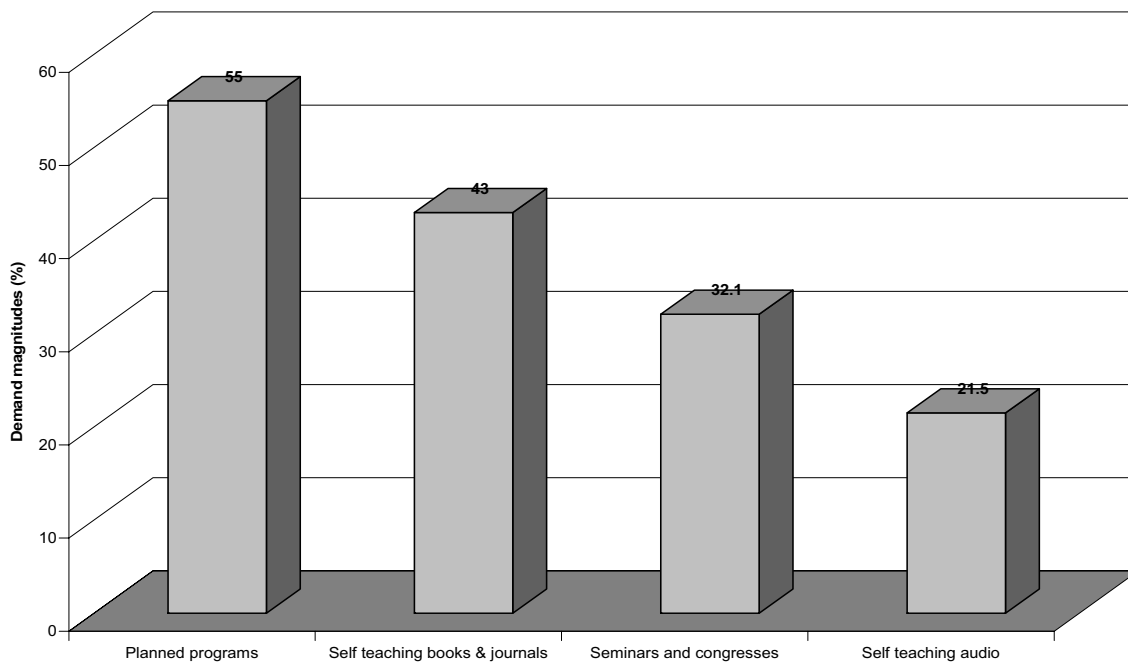
Of all participants, 59.1% preferred a less than 3-day program with a maximum of 4 hours per day. The first subgroup were paediatricians Their priorities is shown in fig. 3 The most important priorities was infectious diseases (15.16%) and the least important priorities was children's mental and behavioral disorders (10.28%). It might be interesting that their most requested educational methods somehow deviated from the results for the general pool in that 64.2% were for lectures followed by questions and answers. The most important of GPs priorities was clinical pharmacology (61%), and the least important of priorities was burning and trauma (44.1%), fig. 3.

In dentist subgroup the order was dental prostheses (27.36%), restorative and plastic topics (21.05%), endodontics (21.05%), orthodontics (18.94%), and surgery (16.31%). Like the paediatricians' subgroup, the dentists' most requested method was lectures followed by questions and answers (56.3%). In pharmacists subgroup new medications (29.21%) ranks first, and compound drugs (20.57%) was the second. Similar to the general practitioners, the pharmacists' most requested method was lectures accompanied by video.

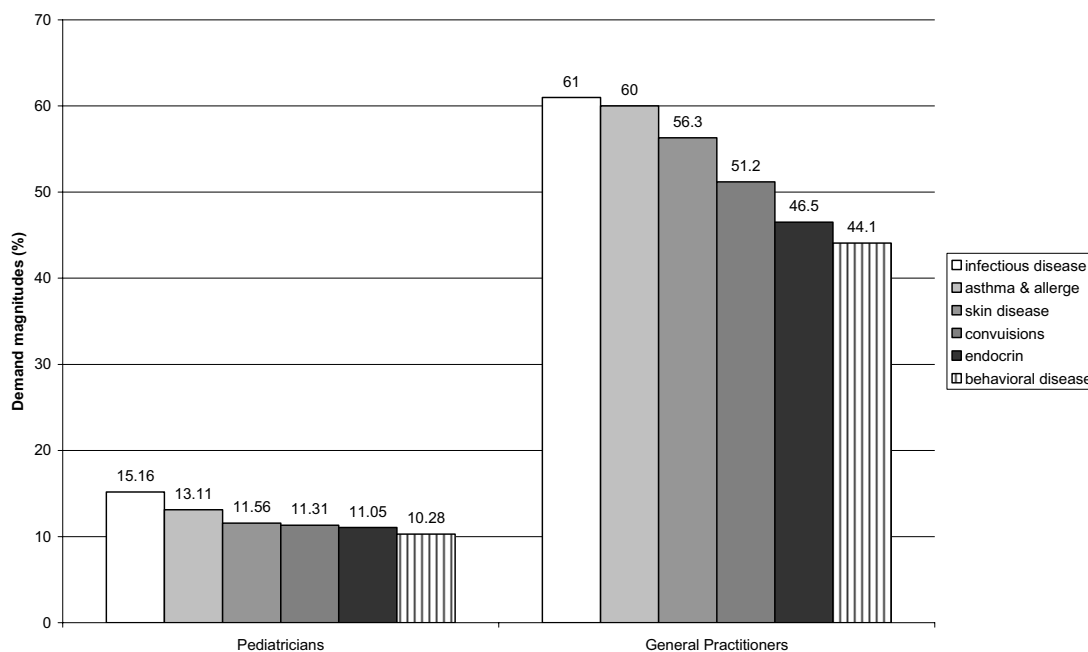
**FIGURE 1.** Preferred educational methods by five subgroups



**FIGURE 2.** preferred educational programs



**FIGURE 3.** Requested topics for pediatrics and general practitioners by their priorities



Finally, the priorities in the questionnaires for lab specialists included laboratory quality control (26.33%), immunology (20.16%), haematology (18%), microbiology (16.87%), biochemistry

(15.22%). The most requested method for this subgroup was educational workshops (63.7%).

**TABLE 1.** Participants Demographic Features

Demographic characteristics		Gender (%)	Age (y) Mean $\pm$ 2SD	Practice (y) Mean $\pm$ 2SD
Paediatricians	N = 689	M = 47.1% F = 52.9%	45.2 (SD = 11.4)	13.9 (SD = 13.9)
GPs	N = 1614	M = 73.9% F = 26.1%	37.8 (SD = 9.3)	7 (SD = 8.3)
Dentists	N = 190	M = 63.7% F = 36.3%	39.9 (SD = 9.4)	11.8 (SD = 8.8)
Pharmacists	N = 243	M = 56.8% F = 43.2%	41.8 (SD = 11.3)	15.1 (SD = 11.1)
Lab specialists	N = 243	M = 64.6% F = 35.4%	42.6 (SD = 11.8)	14.3 (SD = 12.8)
Total	N = 2687	M = 66.7% F = 33.3%	40.3	9.7

## Discussion

The demographic characteristics such as work experience, age, gender and workplace were

associated with choice of educational priorities and learning methods.

For instance, among the male general practitioners under 35 years of age and naturally fewer years of

service experience, clinical pharmacology was the top priority (56%) while for the female GPs and for those of 50 years of age the top priority was a topic as different as internal and pediatrics emergencies.

The younger GPs request for clinical pharmacology may be the result of two very different causes; on the one hand, this might indicate a drop in the educational quality of the clinical pharmacology courses of the GP training curriculum. On the other hand, it could be the outcome of the recent sensitivity to prescription writing courses and the adverse attitude developed toward drug consumption as pointed out in the research of Wun et al. (2002). Figure 3 indicates the two subgroups priorities of requested topics, which are obviously based on each subgroup working background and the problems they face. They might have rated their learning needs in relation to deficiencies from their undergraduate and postgraduate experience or training. For the most-preferred learning need, the five subgroups naturally suggested different topics. These observations suggest that the participants assess their learning needs closely related to the perceived requirement of their daily work. However, these perceived needs may not be well related to the actual level of knowledge that participants have. For instance, specialists and physicians' perceived learning needs have close relevance to their work environment, at the same supplement what is inadequately taught in their graduate or undergraduate curricula. Skin diseases, for example, a priority shared by the specialist and the GPs in this study could be the result of the limited titles in the CME programs in relation to skin diseases, at the same time, it could be due to the large number of referrals to the physicians' clinics with cutaneous lesions. Interestingly, this supports the work of Wun et al. (2002). Another example may be found in poisonings which was reported to be of highest priority by Maddah et al.(2001). In this study, poisonings proved a high priority to physicians. This could be traced back to the shortage of specialized departments in medical universities and the physicians' shortcomings in coping with various cases of drug and food

poisonings which are so prevalent in the community at the present.

Interestingly, modified lectures, i.e., lectures accompanied by films and those followed by questions and answers, and educational workshops were in greatest demand for all subgroups. At the same time, the medical lab specialists were the only subgroup who preferred workshops as their first method of choice. This supports the finding of Colt et al (1998) for family medicine practitioners that workshops should be considered for their preventive effects. In fact, all the participants in our study believed that the workshops they had participated had positively improved their practice as they had applied the clinical recommendations received in the workshops to actual practice. Finally, all subgroups, including general practitioners, which comprised the largest subgroup in this study, rated the appropriate educational programs in the way shown in figure 2 with planned programs as the most in demand, which is rather different from Hans Holm (1998) who concluded that in adult education, as his study on physicians educational needs showed, self-teaching and self-centred educational programs. The observations in this study suggest that physicians assess their learning needs closely related to the perceived requirement of their daily work. They want to learn more in order to improve their patient care or their own practice. Such perceived needs may not be well related to the actual level of knowledge or skill that the physicians have, and only with an understanding of their working background, differences in learning needs may be better interpreted.

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