

Original Research

Continuing Medical Education Needs Assessment of General Physicians Working at Tabriz Health Centers in 2014

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Abstract

Introduction: The aim of this study was to identify the educational needs of General Physicians working in the health centers of Tabriz in 2014.

Methods: The study method was descriptive. The statistical population was 2,024. Of the population of the study, 322 physicians were randomly selected. In order to gather the data, the Delphi method and a researcher-made questionnaire were used in 14 domains of medicine, including: Communicable and Infectious Diseases, Non-communicable Diseases, Health Education, Mental and Social Health, Dental and Oral Health, Medical Procedures, Population and Family, Nutritional Health, Occupational Health, Environmental Health, Complementary Procedures, Health Crisis and Disasters, Laboratory and Drugs, and Alternative Medicine. The validity of the study was confirmed with the viewpoint of the Delphi team and the reliability was confirmed with the Alpha Cronbach ($r = 0.84$). For data analysis, we used descriptive statistic methods like frequency, percentage and mean, and the Friedman ranking test (calculated using SPSS v. 21).

Results: The results showed that the first-ranked educational needs of every domain were the following (in order of domain listed above): respiratory infection, hypertension, healthy lifestyle, stress management, dental growth and care in children, raising hope and pleasure, weight and nutritional control, occupational health and safety, water hygiene, cardiopulmonary resuscitation, therapeutic exercises, natural disasters' primary cares, rational use of drugs and traditional medicine.

Conclusion: The first domain receiving the first rank of educational needs was non-communicable diseases, and the conformity range of implemented plans in continuing medical education with need assessment results was 53.84%.

Introduction

Today, many aspects of medical science are ongoing and changing rapidly. Since health problems vary in different areas, the knowledge, attitude and skills of General Physicians (GP) must be up-to-date to meet the needs of covered community. Additionally, the training system must aim to identify and meet the needs of the community, especially the professionals. In this regard, developing and holding continuing education programs is one of the ways to maintain the ability of physicians. Continuing education is one the innovative strategies to maintain and improve medical community knowledge.¹ Continuing education has been used for health promotion by most countries over the past decades, and Iran's official continuing education activity began in 1991. The main goal of continuing education was introducing and developing continuing education in the country during the years 1991-1996, including those activities to maintain, develop and enhance

the knowledge, skills, and professional performance and relationships that a physician uses to provide services to patients, community and to the profession. Approval of continuing education for doctors led graduated medical doctors to regularly become familiar with new sciences and technologies. Given the dramatic increase in the volume of information that constantly changes medical knowledge, every 4 to 5 years on average, 50 percent of medical knowledge becomes outdated, and every 8 to 10 years, that number increases to 75 percent;² therefore, the knowledge and competencies acquired at the end of academic medical training cannot ensure future adequate skills in the medical profession. Thus, medical graduates and professionals need provisions for lifelong learning or continuing education, as well as sectional need assessments for appropriate fulfillment of that need.³ In the scope of education, needs assessment is considered an

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essential component of the planning process, and it is an important tool in the design, development and evaluation of continuing education programs. The initial step in the planning process is identifying objectives; identifying and effectively analyzing educational needs is the prerequisite for a successful education system.⁴ Educational needs assessment is the first and most important step in planning the healthcare system and medical education. It is based on precise patterns and techniques, which results in an increase of effectiveness and efficiency of the planning in the system. Appropriate, comprehensive, scientific and documented assessment is important and necessary for the following reasons:

1. It helps identify goals and objectives and achieve them.
2. The need for renewal and reconstruction of educational programs is consistent with scientific developments and changing needs.
3. The need for cross-functional operation is clear to detect, identify and meet needs before they reach a peak and lead the planners to less effective and reactionary behavior.
4. It justifies the educational program, budget estimation and necessary facilities.
5. It provides a basis for accountability and program evaluation.
6. It prevents the waste of resources and increasing productivity and effectiveness of the program.

In Iran, in the past decade, a needs assessment of General Physicians was done in some universities, such as Isfahan, Tehran and Khozestan, but not in Tabriz. The only studies done in Tabriz were on specialist doctors and not the general physicians, and the results of the assessment were short-term and for a particular community. Since there is no dedicated needs assessment in the General Physicians program in the Continuing Education Center of Tabriz University of Medical Sciences, in the past decade, this study aimed to identify the educational needs of general physicians in Tabriz in 2014, and sought to identify the priorities that should be taught, offering the results to officials for designing educational programs. It is expected that this study could help meet the new educational needs of doctors, and lead to reduction of stress in the workplace, enhance the quality of doctors' performance, and increase the quality of medical education to best meet the needs of society.

Materials and Methods

Regarding the objectives, this was an applied study, and due to the method of data collection, this study is also considered descriptive. The populations of the study were the physicians working in the health centers of Tabriz, including clinics, hospitals, health centers, rehab centers and counseling clinics and private offices. Based on the statistics provided by the Medical Council, the total numbers of working general physicians in Tabriz were 2024 people in 2014. The sample size chosen from among the target population were 322 people using the Morgan

table. For a descriptive examination of the data, we used descriptive statistics such as frequency distribution table, percentage, mean and standard deviation. In response to research questions and to prioritize the educational needs from the viewpoint of the general physicians in the medical cases and topics, we used SPSS v.21 and statistical inference based on the Friedman rank test. The stratified random sampling method was used. Out of the total population, 322 physicians, of whom 62.94 percent were men and 37.06 percent were women, were selected as the study population. In this study, a researcher-made questionnaire was used to collect information. The questionnaire draft was developed using literature review, the duties of general Physicians working in Ministry of Health and extracting health problems by Tabriz Health Organization. Then, after using the Delphi method to validate the questionnaire, it was given to a team of experts, including specialists, faculty members and education professionals and expert general physicians who gave their comments on the necessity of education in each area extracted from the aforementioned sources. After that, the comments were applied on the questionnaire draft and the revised questionnaire was reaffirmed by the Delphi team members. The final questionnaire consisted of two parts; the first part included demographic data of doctors: age, gender, work experience, employment location and where they received their degree. The second part contained the educational needs in 14 areas which were given the study group (GPs) to complete, prioritize and assess the importance of education required in each area. The Delphi method was used to determine validity and Cronbach's alpha coefficient was used to determine reliability ($r = 0.84$).

Results

The mean age of general Physicians participating in the study was 42.16 ± 8.65 years, and the average of their work experience was 14.33 ± 8.22 years. Of the general physicians participating in the study, 61.5 percent were working in their private office; 14 percent in clinics; 13 percent in emergencies and special care units of hospitals; 4.5 percent in affiliated organizations such as blood transfusion, insurance, crescent, welfare, and forensics; 4.5 percent employed in health centers; and 2.5 percent in rehab centers. The educational priorities among the different education areas obtained from the literature review and the roles and responsibilities of physicians based on the experts' opinions were as follows (Table 1). Various educational topics for the 14 areas obtained from the initial questionnaire completed by experts in Delphi (prioritized) were as follows (Table 2).

The 14 areas of priority obtained from the findings of the present study showed that there was 53.84 percent compliance between viewpoints of the general physicians and topics of continuing education programs in 2013.

Discussion and Conclusion

Regarding to contribute 91 percent of physicians it could be said that continuing education is important for this

Table 1. Prioritization of educational needs of general Physicians in terms of the area

Priority	Educational Domain	Mean Rank
1	Non communicable Diseases	2.39
2	Communicable and Infectious Diseases	3.11
3	Health Education and promotion	3.67
4	Nutritional Health	4.89
5	Social & Mental Health	5.89
6	Medical Procedures	6.28
7	Health Crisis and Disasters	8
8	Occupational Health	8.11
9	Environmental Health	8.89
10	Population & Family	9.89
11	Dental & Oral health	10.11
12	Complementary Procedures	10.33
13	Drug & Laboratory	10.89
14	Alternative Medicine	12.56

group and the obtained results showed compliance with the policies of this field. Non-communicable diseases ranked first in terms of needed education according to experts, which was the result of the high prevalence of these diseases in a high percentage in the population covered by physicians. Alternative medicine was ranked last because a number of doctors believed that cases such as acupuncture and homeopathy were not effective therapies since they vary so widely from person to person. Additionally, they are very dependent on the characteristics of the patient, such as the patient's living environment, condition and social level. Patients often turn to these methods in the event of failure to respond to conventional treatment methods. False beliefs about traditional medicine have taken root in society and ours has not escaped these extremes—the field of medicine is no exception. Regarding the results obtained in other areas with respect to the community and university policies, it seems reasonable to ensure careful planning for setting up courses and workshops, because many topics can be incorporated in a workshop or course.

The results of this study were most consistent with the results of the studies done by Moderi¹ and Omid,⁵ because the assessment results depended on the geographic area, the assessment time, target group and its goals. Our study was closer to Omid's in terms of objectives, target group, and time. With regard the results of our study, the educational needs of physicians in the fields of intubation, cardiopulmonary resuscitation and common psychiatric disorders, were consistent with Omid's however, there was no consistency with the need for the continuing health education method. In our study and Moderi's, the first priority was related to no communicable diseases and diabetes, which had a high needs-based rating. This study was also inconsistent with Zavvar⁶ and Shiri's⁷ studies about health and mental problems, and mental health in different areas was the fifth priority among 14 areas in our study and is the first priority in the two aforementioned.

It was consistent with the findings of Amirnia's study⁸ in the framework of the assessment, and the geographic area and target group as well. This is how the needs of Tabriz general physicians, including the need to review the topics of the program, the need to design programs based on the health problems, and the need for assessment before implementing the programs in 2014 were taken into consideration in this study. The priority of this study was consistent with the priorities of Dehghani's⁹ on the educational needs of general physicians in the regimen, which was also obtained in the educational priorities of our study. The results of our study were also consistent with Zeynalo's¹⁰ in the priority areas except in the case of mental health or Shakournia's.¹¹ And on the consistency of our results with other international studies-except Vetter¹² whose priority was nutrition-in other cases^{13,14,15,16} no consistency was seen due to the geographical mismatch and differing objectives of the assessment, target group and the assessment time. They also did a more comprehensive and thematic assessment.

However, what all studies agreed upon was that if the curriculum was prepared based on the needs and their priorities, it certainly would be a step toward achieving predetermined goals, and the success of participants would greatly increase. A systematic and comprehensive assessment is the introduction and necessity of appropriate design for continuing education programs and paves the way for successful and satisfactory implementation of these programs, with regard to the 50 percent compliance. The results of this research can be effective in improving medical education for general physicians, and the results of the need assessment can be used for the modification of continuing education programs to improve efficiency and fundamental restructuring of programs for general physicians.

Table 2. Educational needs of general Physicians in terms of educational topics

Priority	1.Non communicable Diseases	2. Communicable and Infectious Diseases	3.Health Education & promotion	4. nutritional Health	5.Social & Mental Health	6. Medical Procedures	7. Health Crisis and Disasters
1	Hypertension	Respiratory Infection	Healthy Life Style	weight & nutritional control	Stress Management	Cardio Pulmonary Resuscitation (CPR)	natural disasters Primary cares
2	Diabetes	Influenza & seasonal Diseases	Preventive Medicine	Worth of food and proper nutrition	Anxiety Disorders	Intubation	trauma & accident
3	Cardiovascular Diseases	Hepatitis	patient education & Concealing	promotion of nutrition & false beliefs	Depressive Disorders	Ambulatory Diagnostic Procedures	Intensive care units
4	JRF	Urine Infections	community health Monitoring & Promotion	Food security in different groups of people	Mental health in Social groups	outpatient Surgeries	--
5	Obesity	STD	comprehensive health care	The role of food supplements in Diseases and health	Drug Abuse	Suturing	--
6	Cancers	HIV	Advocacy and Social recovery	Nutrition in specific Diseases	Personality disorders	Electro cardiography (ECG)	--
7	Dermatologic disorders	Rashes	Individual preventive care	Calorimetrically	Mental Health Assessment	Chest tube Insertion	--
8	FUR (FMF)	Zoonotic diseases	Ageing Health	--	---	new medical diagnostic devices	--
9	Gastro intestinal Diseases	Brucellosis	Community comprehensive health Indicators	--	--	Dressing	--
10	Geriatric problems	--	High Risk Behaviors	--	--	Dermal Catheterization & Cryo therapy	--
11	Low back pain	--	--	--	--	Bladder Catheterization	--
12	Gout	--	--	---	--	Circumcision	--
Priority	8. Occupational Health	9. Environmental Health	10. Population & Family	11.Dental & Oral health	12. omplementary Procedures	13.Drug & Laboratory	14. Alternative Medicine
1	Occupational health & safety	Water Hygiene	Raising hope & Pleasure	Growth & Health of children teethes	Therapeutic Exercises	Rational use of Drugs	Traditional Medicine
2	Healthy Work environment	Human roles in environmental pollution	Family Counseling	Dental Caries	Physical therapy	Fever Examinations	Acupuncture Medicine
3	Occupational Injuries	Air & environment Pollutants	Planned Parenthood	Relationship Nutrition with dental & oral health	Casting	Liver Examinations	Homeopathy
4	Occupational health examinations	principles and safety of urban health	Eligible Problems	Halitosis	---	Specific tests in blood congenital disorders	---
5	Occupational counseling	Principles of environmental health and health	Problem Solving Skills	usual Gum &Dental diseases	---	---	---
6	--	environmental contaminants & healthy measures	Child numbers select	The role of dental disease in causing other diseases	---	---	---
7	--	healthy disposal	Family and the spiritual Foundations	Dentistry Complications	--	---	---
8	--	environmental destructors control	Infant and child mortality	Dental & Jaw trauma	--	---	---
9	---	Environmental Health Protocols	--	--	--	--	--

Ethical issues

Participants' names were kept confidential.

Competing interests

The authors declare no competing interests.

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References

1. Moderi FK, Alavinia SM, Labafghasemi R, Shams M. [Educational Need Assessment of General Physicians employed in chancellors of Health Ministry and Medical Education. Ministry of Health & medical education]. *Teb Va Tazkiyeh* 2012;21:40-44
2. Mohammadimehr M, Maleki H, Abbaspour A, Khoshdel A. [Essay on the competencies needed for lifelong learning in medical students]. *Iranian Journal of Medical Education* 2012;11 (8):961-975.
3. Azizi F, Rezaee N, Reyahiasl B. [Medical Education: Mission, Vision, and Challenge]. Tehran: Publication Ministry of Health and Medical Education of Tehran, Shahidbeheshti Department of Educational and Student Affairs;2004.
4. Boucher BA, Chyka PJ, Fitzgerald Jr WL, Hak LJ, Miller DD, Parker RB, Phelps SJ, Wood GC, Gourley DR. A comprehensive approach to faculty development. *Am J Pharm Educ* 2006;70(2):27.
5. Omid A, Yamani N, Heidari K, Mousavi T, Mousavi A. Educational needs of general practitioners who enrolled as family physicians in national family medicine program and referral system. *Iranian Journal of Medical Education* 2013;13(6):470-479.
6. Zavar A, Khdivi Zand S, Kabiri F. Assessment of educational needs for retraining physicians working at addiction treatment and rehabilitation centers. *Future of Medical Education* 2013;3(3):46-47.
7. Shiri M, Asghari H, Talebi M, Karamalian H, Rohani M, Narimani S. [Educational needs assessment of family (general) physicians working in rural health centers of esfahan districts in five domains]. *Iranian Journal of Medical Education* 2011;10(5):726-734.
8. Amirnia M, Mohammadi F, Vahidi RG, Mohammadzadeh M, Ghojzadeh M, Hejazi SA, Zadehgan A. [General practitioners' views toward quality of continuing medical education programs in Tabriz]. *Iranian Journal of Medical Education* 2012;12(4):231-239.
9. Dehghani Poudeh M, Rafiei M. [General physicians' educational needs about diet therapy, a job analysis study]. *Iranian Journal of Medical Education* 2012;11(9):1486-1479.
10. Zeynalo A, Shirazi M, Alaeddini F, Tofighe H, Pajoumand A, Seyrafi H, Akhoundzadeh Sh, Talebian MT, Taghaddosinejad F, Ahmadi A, Khanjani H. [Determining the Topics and Content of CME Programs in Five Selected Subjects: Comparing the View Points of Experts and Target Group; a Tehran University of Medical Sciences Experience]. *Iranian Journal of Medical Education* 2007;8(2):255-262.
11. Shakournia A, Elhampour H, Marashi T, Heydari Soureshjani Sh. [Concordance of length and contents of continuing medical education programs with educational demands of practicing gps in khuzestan province]. *Iranian Journal of Medical Education* 2006;7(1):85-92.
12. Vetter ML, Herring SJ, Sood M, Shah NR, Kalet AL. What do resident physicians know about nutrition? An evaluation of attitudes, self-perceived proficiency and knowledge. *J Am Coll Nutr* 2008;27(2):287-298.
13. Guldal D, Windak A, Maagaard R, Allen J, Kjaer NK. Educational expectations of GP trainers. A EURACT needs analysis. *Eur J Gen Pract* 2012;18(4): 233-237.
14. Munongo E, Mungwadzi G, Vohra R, Herrforth C, Lunney KM. Needs assessment of emergency medical care in zimbabwe: preliminary results from a survey of primary care physicians. *Afr J Emerg Med* 2013;3(2):83-84.
15. Norris TE, Coombs JB, Carline J. An educational needs assessment of rural family physicians. *J Am Board Family Pract* 1996;9(2):86-93.
16. VanGesst JB, Cummins DS. An educational needs assessment for improving patient safety, Results of a national study of physicians and nurses in National Patient Safety Foundation, A report of National Patient Safety Foundation, American Medical Association's (AMA). USA: American Medical Association, Medicine and Public Health Unit;2003.