ORIGINAL ARTICLE

Community-Oriented Medical Education and Clinical Training: Comparison by Medical Students in Hospitals

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ABSTRACT

Objective: To determine the students' comparison of their one month educational trainings in Community-Oriented Medical Education with hospitals clinical education.

Study Design: Observational study.

Place and Duration of Study: Kermanshah Community-Oriented Medical Education Field, Kermanshah University of Medical Sciences, Kermanshah, Iran, from April 2000 to February 2009.

Methodology: As of 2000, medical interns of Kermanshah University of Medical Sciences spend one month in the field of community-oriented medical education. At the end of the one-month period, the interns filled a questionnaire of 11 questions (based on the Likert scale) to assess the level of education in the field compared to hospital clinics. Data of questionnaires collected and completed from 2000 through 2009 (948 questionnaires) were analyzed on SPSS 18 using descriptive statistics (percentage) and analytic statistics (Chi-square test).

Results: The 948 students consisted of 66.4% males (n = 666) and 33.6% females (n = 282). All 11 variables of comparison were rated improved in the field education compared to the hospital training. The greatest difference pertained referring patients to the relevant health units (82% vs. 23.3%); patience in education (84.6% vs. 37.1%); consideration given to the three levels of prevention (77.2% vs. 33.6%) and the attention paid to the presence of students (91.7% vs. 51.8%), all of which were statistically significant ($p < 0.0001$). According to the interns, the educational status of specialized clinics of the field was superior to the specific clinics of hospitals ($p < 0.0001$).

Conclusion: From the standpoint of medical students, training in community-oriented medical education in the field was better than training in the hospitals' clinics.

Key words: *Medical education. Community-oriented. Education in community. Community-oriented medical education.*

INTRODUCTION

Since the 1960s, despite the enormous advances in medical sciences, the mortality rate and incidence of diseases have not diminished considerably, and only their manifestations have been altered. Therefore, the first conference of medical education in Edinburgh in 1988 decided that a change in systems of medical education is crucial in universities throughout the world. Following this decision, and the great revolution in the system of providing Primary Health Care (PHC) [Almaty Conference, 1978], the community-oriented approach to medical education was introduced. Community-oriented medicine is the collection of educational, healthcare, and research activities based on the needs of community so that they may lead to provision, maintenance and improvement of health in individuals of a society. Community oriented medical education (COME) consists of training efficient human resources in such a way that they may be suited to the needs of the community in order to provide, maintain and improve physical, mental and social health of the individuals in the society.[1-5] The objective of this approach is to respond to the needs of the community.[4] After the introduction of COME, many universities of the world have modified their educational systems according to its principles.[6-13]

Since 1975 in Iran, one month of clerkship and internship of social medicine was planned for medical interns in their program of general medicine in order to familiarize them with the healthcare system of the country and prepare for the actual challenges of healthcare, as well as receive information about the management of healthcare centres. However, since the short period of education in field is quite disproportionate to the long-period of training in hospitals, COME was adopted as a pivotal policy by the ministry of health and medical education in 1995; eversince, it has been implemented and evaluated differently in some medical universities throughout the nation.[14-18]

In this study, the aim was to compare community-oriented medical education and clinical training as rated by the medical interns in hospitals' of Kermanshah University of Medical Sciences (KUMS).

METHODOLOGY

The field of COME in Kermanshah University of Medical Sciences (KUMS) was established in 1995. The field is

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located in North-western part of Kermanshah city and consists of a specialized polyclinic, three healthcare centres and three health bases, covering 97,324 people of 21,395 families. This centre offers the primary and secondary prevention services. In June 1999, a house to house survey was conducted on the population of the field, assigning a code to each family. The changes in population (immigration and emigration, birth, death etc.) were recorded with the help of health intermediaries. Considering the definition of COME which states knowledge of health-related requirements of the community as its first objective, a rapid survey was conducted entitled "assessing health and disease" using the data from our first survey. In this survey, 8495 people (1957 families, about 10% of the population covered) were selected using systematic random sampling. Using the data of this survey, the health-related requirements and priorities as well as the common diseases of the population were identified and used as the basis of educational programs. During the years that followed, as the population was defined, health units became available, patients referred first-hand to the clinics of the field were followed up in their household by healthcare units, the needs of the society were determined using the prevalence of patients in the community and these were used as a basis for educational purposes.

In 1999, the educational committee of the KUMS approved one month of internship for medical interns (one month of the entire general medical education curriculum) in COME field, and eversince the medical interns spend one month in one-week courses for each clinic of internal medicine, paediatrics, gynaecology, and dermatology. At the end of the month, the students were requested to complete an anonymous questionnaire. The questionnaire comprised of 11 multiple-choice questions, using 4-point Likert scale (1-4), to assess their evaluation of education in the field to be compared with education in hospital clinics. Some blank space was left at the end of the questionnaire for open comments. The validity of the questionnaire was measured through content and face validity, and its reliability using 20 students to complete the questionnaires and measuring *Cronbach's alpha* (α = %78). The questionnaire was an 11 item, Likert type scale. The response alternatives were weighed from 4 (very good) to 1 (very poor). An individual score was the sum of weighed alternatives endorsed by the participants. The scores ranged from minimum 11 to maximum 44. Scores were categorized as desirable (34 – 44), average (22 – 33) semi-desirable, and low (11 to 21) undesirable.

The data resulting from these anonymous questionnaires filled from 2000 through 2009 (948 questionnaires) were analyzed using Statistical Package for Social Sciences (SPSS) version 18. All tests were two sided. A p-value of less than 0.05 was considered as significant. Chi-square test was used to compare the education's desirability in COME's field and hospitals' clinics. Descriptive statistics (percentage and frequencies) were used for qualitative variable (sex and all 11 multiple-choice questions).

RESULTS

A total of 948 students, consisting of 66.4% males (n = 666) and 33.6% females (n = 282) were included in the study. Internship for medical intern takes place in semesters 12 (n = 308, 32.3%), 13 (n = 283, 30%), and 14 (n = 357, 37.7%).

The students evaluated the following features of field education as good: the instructor's attention to the presence of students in the clinic (91.7%, n = 868); the

Table I: Distribution of frequency of the interns' evaluation of community-oriented medical education in the field.

	Very good		Good		Poor		Very poor		Total	
	n	%	n	%	n	%	n	%	n	%
Given to the presence of students	569	60.1	299	31.6	63	6.7	15	1.6	946	100
Teachers patience in education	551	58.1	251	26.5	109	11.5	37	3.9	948	100
Stated objectives and the need for community based medical education	357	37.9	377	40	165	17.5	44	4.7	943	100
Method of presentation and explanation topics	456	48.2	303	32.6	150	15.8	32	3.4	947	100
Given the three levels of prevention in dealing with patients	408	43.1	323	34.1	172	18.2	44	4.6	947	100
Referring patients to appropriate health units	441	46.6	335	35.4	128	13.5	42	4.4	946	100
Continuous assessment of students in the field during a month internship	441	46.8	308	32.7	154	16.3	40	4.2	943	100
Giving student role in patients treatment	526	55.7	255	27	123	13	40	4.2	944	100
Create interest in students for research in health issues	435	46.6	292	31.2	149	15.9	59	6.3	936	100
Teachers' emphasis on patient follow-up problem	455	48.5	326	34.8	125	13.3	32	3.4	938	100
Due to health problems through community clients	424	45.5	334	35.8	134	14.4	40	4.3	932	100

Table II: Comparing the interns' evaluation of the status of education in the field of community-oriented medicine and hospital clinics (948 people).

		Desirable		Undesirable		p-value
		n	%	n	%	
Given to the presence of students teachers patience in education	Field (n = 946)	868	91.7	78	8.3	< 0.0001
	Hospital (n = 946)	490	51.8	456	48.2	
Stated objectives and the need for community based medical education method of presentation and explanation topics	Field (n = 948)	802	84.6	146	15.4	< 0.0001
	Hospital (n = 948)	352	37.1	596	62.9	
Given the three levels of prevention in dealing with patients referring patients to appropriate health units	Field (n = 943)	734	77.9	209	22.2	< 0.0001
	Hospital (n = 943)	379	40.2	564	59.8	
Continuous assessment of students in the field during a month Internship giving student role in patient treatment	Field (n = 947)	765	80.8	182	19.2	< 0.0001
	Hospital (n = 947)	460	48.6	487	51.4	
Create interest in students for research in health issues teacher emphasis on patient follow-up problem	Field (n = 947)	731	77.2	216	22.8	< 0.0001
	Hospital (n= 947)	318	33.6	629	66.4	
Due to health problems through community clients given to the presence of students	Field (n = 946)	776	82	170	18	< 0.0001
	Hospital (n = 946)	220	23.3	726	76.7	
Teachers patience in education stated objectives and the need for community based medical education	Field (n = 943)	749	79.5	194	20.5	0.0001
	Hospital n = 943)	427	45.3	516	54.7	
Method of presentation and explanation topics given the three levels of prevention in dealing with patients	Field (n = 946)	781	82.6	163	17.4	< 0.0001
	Hospital (n = 946)	510	53.9	436	46.1	
Referring patients to appropriate health units continuous assessment of students in the field during a month internship	Field (n = 936)	728	77.8	208	22.2	< 0.0001
	Hospital (n = 936)	384	41.1	552	58.9	
Giving student role in patient treatment create interest in students for research in health issues	Field (n = 936)	771	83.4	165	17.6	< 0.0001
	Hospital (n = 936)	530	56.5	408	43.5	
Teachers' emphasis on patient follow-up problem	Field (n = 932)	758	81.3	174	18.7	< 0.0001
	Hospital (n = 932)	413	44.3	519	55.7	

Table III: Interns' general evaluation of the education status of the field compared to hospitals for each clinic.

	Very good		Good		Poor		Very poor		Total	
	n	%	n	%	n	%	n	%	n	%
Internal medicine	65	37.6	56	32.4	29	16.7	23	13.3	173	100
Paediatric	118	66.3	48	27	12	6.7	0	0	178	100
Gynaecology	206	62.8	100	30.5	18	5.5	4	1.2	328	100
Dermatology	124	48.2	83	32.3	42	16.3	8	3.1	257	100
Total	513	54.8	287	30.7	101	10.8	35	3.7	936	100

$X^2 = 99.7$; df = 9; p < 0.0001

instructor's patience and desire in teaching (84.6%, 802 person); and allowing students to visit patients (student-orientation, 82.7%, n = 781). The students evaluated the following as weak: attention to the three levels of prevention (22.8%, n = 216); expressing the objectives and necessity of community-oriented medical education (22.2%, n = 209); constant evaluation of students (20.5%, n = 194); and motivating students for research in health issues (22.2%, n= 208) (Table I).

In terms of all 11 variables used for comparing the educational status in the field and in hospitals, the field was evaluated to be superior to hospitals. The greatest difference pertained referring patients to the relevant health units [82% (n = 776) vs. 23.3% (n = 318)], the instructor's patience in education [84.6% (n = 802) vs. 37.1% (n = 352)], consideration given to the three levels of prevention [77.2% (n = 731) vs. 33.6% (n= 318)] and attention paid to the presence of students [91.7% (n = 868) vs. 51.8% (n = 490)]. All were statistically significant (Table II).

According to the interns, the educational status of the field was superior compared to the specialized clinics of the hospitals (p < 0.0001). The best education pertained to the clinics of paediatrics, gynaecology, dermatology and internal medicine, in decreasing order (Table III).

According to the students, the educational status of the field was not different from the hospitals in terms of gender and the number of semester.

DISCUSSION

At the end of their one-month in the field of community-oriented medical education, the interns evaluated the instructors as excellent in terms of attention paid to the presence of students, their patience and desire in teaching students, and their student-oriented approach to visiting patients. This excellent function may be accounted for by the fact that the instructors spend greater time in the field, since they are present in the field for an average daily period of 3 hours, depending on the number of patients referring to them. In the hospitals, however, the instructors are involved in other activities as well, such as visiting the hospitalized patients, participation in morning reports etc., thus, they find less time to be present in the hospital clinics. On the other hand, the function of the instructors was assessed as weak in terms of attention to the three levels of prevention, expressing the objectives of community-oriented medical education, and organizing research. This fact may be due to the instructors' insufficient knowledge and their neglect of the general issues pertaining to their specialty which is in turn due to the fact that they were not trained for these issues as students or residents.

Despite the fact that some features were evaluated as weak, education in the field was assessed superior to education in hospital in all 11 variables studied; in other words, the interns stated that even the weak points of education in the field are superior compared to their counterparts in hospital education. Thus, a comparison of community-oriented medical education in field and the hospital-based education reveals the superiority of field education; a finding that is in line with other studies. In a study by Nurian in Zanjan, 72.8% of students were satisfied with education in field.[15] In another study by Mortezavi in Isfahan, the students were reportedly more satisfied with education in the field compared to education in hospital wards and emergency department, in terms of the educational method, variety of patients and the instructors' function.[14] A cohort study was conducted to compare the two approaches of traditional and community-oriented medical education from 2005 through 2007, using quantitative (questionnaire) and qualitative (focused group discussion and individual interviews) methods. Except for one workgroup, the educational objectives of community-oriented education scored higher in all features compared to the traditional method.[9] In another study, COME was reported superior to the traditional method in terms of improving motivations, durability of information learned, problem-solving skills and communicative skills of the students.[19] In a study by Hypp on graduate Finnish doctors from 1987 to 1996, the community-oriented medical courses were indicated to address the practical needs of the physicians more efficiently compared to traditional methods.[13] Other studies have corroborated the superiority of COME over traditional methods of medical education.[7-13,20]

The best status of education was mentioned for clinics of paediatrics, gynaecology, dermatology and internal medicine, in decreasing order (Table III). One reason for the better evaluations of paediatric and gynaecologic clinics compared to the dermatology and internal medicine clinics may be due to the fact that the former are more inter-related to the healthcare units through paediatric and obstetrician cares (family management and pregnancy care) and their records of family health status, whereas in the family health records, no cares are provided for male individuals above the age of 8 years (either in urban or rural areas).

The greatest difference in evaluation of students from the education in the field compared to the education in hospital pertained to variables such as attention to the three levels of prevention and referring patients to the appropriate healthcare units (Table II). It is obvious that referring patients to the appropriate healthcare units (if applicable) for further follow-up and the familiarity of interns with the relation between clinical education and the healthcare units, as well as the manner of patient follow-up by these units solely pertain to the fields (healthcare units) and do not occur in hospitals. Moreover, attention to the three levels of prevention may take place in the field due to its proximity to healthcare units, since primary healthcare services (PHC) in the healthcare units emphasize primary prevention, whereas this is not the case in hospital clinics. Thus, it appears that the optimal site for offering this type of education in a general practitioner's program would be the healthcare units (in close contact with people in cities) where a true relationship between the healthcare units and the clinics exists.

CONCLUSION

From the medical students' point of view, training in community-oriented medical education in the field was superior compared to training in hospital clinics.

REFERENCES

1. Hays R. Community-oriented medical education. *Teaching Teach Educ* 2007; **23**:286-93.
2. Baig LA, Akram DS, Ali SK. Development of the community-oriented medical education curriculum of Pakistan: a case report on the national initiative on curriculum development. *Educ Health* 2006; **19**:223-8.
3 Schwarz MR, Wojtczak A. Global minimum essential requirements: a road towards competence-oriented medical education. *Med Teach* 2002; **24**:125-9.
4. Hamad B. Community-oriented medical education: what is it? *Med Educ* 1991; **25**:16-22.
5- Akbari MA. Community-oriented medical education. Isfahan: *Isfahan University Medical Science Publication*; 1993.

6. Noble V. A medical education with a difference: a history of the training of black student doctors in social, preventive and community-oriented primary health care at the University of Natal Medical School, 1940s-1960. *South Afr Hist J* 2009; **61**: 550-74.

7. Habbick BF, Leeder SR. Orienting medical education to community need: a review. *Med Educ* 2009; **30**:163-71.

8. Burke SC. Analysis of a GP registrar course on palliative care for features of community oriented medical education. *Educ Prim Care* 2008; **19**:535-7.

9. Ocek ZA, Ciceklio_lu M, Gursoy ST, Aksu F, Soyer MT, Hassoy H, *et al.* Public health education in Ege University Medical Faculty: developing a community-oriented model. *Med Teach* 2008; **30**:e180-8.

10. Hamad B. Evaluating the community-oriented medical education in two medical schools in Sudan. *East Mediterr Health J* 2006; **12**:249-51; author reply 251.

11. Azizi F. Evaluation of the community-oriented medical education in two medical schools in Sudan. *East Mediterr Health J* 2003; **9**: 191-200.

12. Fujita H, Herai K, Inoue K, Kyo G, Ninotani S, Fukushima R, *et al.* [Evaluation of community-oriented education in the public health course for medical students]. *Nihon Koshu Eisei Zasshi* 2002; **49**: 544-53. Japanese.

13. Hyppölä H, Kumpusalo E, Virjo I, Mattila K, Neittaanmäki L, Halila H, *et al.* Evaluation of undergraduate medical education in Finnish community-oriented and traditional medical faculties: a 10-year follow-up. *Med Educ* 2000; **34**:1016-8.

14. Mortazavi AA, Razmara A. Medical student satisfaction in different educational locations. *Iranian J Med Educ* 2002; **1**: 49-52.

15. Ali-Nourian A, Mousavinasab N, Vahhabi M. Attitudes of medical students and teachers towards education in community-oriented medical education (COME) centre, Zanjan University of Medical Sciences 2004. *Strides Develop Med Edu* 2006; **3**: 43-50.

16. Emami MH, Pezeshki MZ.. Holistic view in medicine. *Iranian J Med Educ* 2002; **1**:9-15.

17. Eslamipour F, Heidari K, Asgari I. Dental students' competencies in community dentistry course. *Iranian J Med Educ* 2008; **7**:201-8.

18. Zandi-Ghashghaei K, Madah SB. A study on the opinion of medical teachers about effective factors involved in the implementation of community oriented medical education in medical sciences university's of Tehran in 1998. *J Yasuj Univ Med Sci* 2002; **6**:48-2.

19. Khan I, Fareed A. Perceptions of students and faculty about conventional learning and community-oriented medical education. *J Coll Physicians Surg Pak* 2003; **13**:82-5.

20. Ayesha A, Kazi A, Jahangeer A, Fatmi Z. Knowledge and skills in community oriented medical education (COME) self-ratings of medical undergraduates in Karachi. *J Pak Med Assoc* 2006; **7**:313-7.