



Developmental studies on community-based education in Pamukkale university faculty of medicine (Turkey): Interprofessional educational approach

Dilek Akdogan¹, Ahmet Ergin², Ilgaz Akdogan¹, Izlem Kabali³, Hanim Ahu Ural⁴

ABSTRACT

Objective: Pamukkale University Faculty of Medicine uses a problem-based learning and student-centered education with aiming to give strengths to the students regarding the skills in public health and preventive medicine. In the context of improving community-based education and integrating the interprofessional education into community-based education, the "Home visits for health services" has been integrated into the medical curriculum in the 6th year medical students. The resident physicians and Home Health Services teams were divided into groups for home visits. Interprofessional education aims to enable the 6th year medical students to recognize the bedbound and disabled patients in the province of Denizli in terms of biological, psychological and social perspectives as well as to appreciate the importance of these with acting in concert with the professional health team. **Methods:** An interns-oriented questionnaire has been prepared to assess the actualization rate of these goals. The questionnaire includes 4 questions about recognition of community health problems, 3 questions about health organization and direction, 2 questions about team work, 2 questions about professional and ethical values, and 1 question about interprofessional education. **Results:** In the analysis of results, the highest score was obtained for the question of "This training has helped to develop my ability to facilitate showing empathy towards the patients and to improve my humanistic and ethical values". Again, the question of "This training helped me to recognize the problems of bedbound and disabled patients" received a high score. There was not a statistically significant difference between the 6th year student groups ($p > 0.05$). **Conclusions:** It was found that this training helped the students to better recognize the community health problems, to show empathy, to develop humanistic and ethical values and to recognize the problems of disabled and bedridden patients.

KEY WORDS: Community-based education; Interprofessional education; Medical education.

¹Pamukkale University, Faculty of Medicine, Department of Medical Education, Denizli, Turkey.

²Pamukkale University, Faculty of Medicine, Department of Public Health, Denizli, Turkey.

³Denizli Health Directorate, Denizli, Turkey.

⁴Dokuz Eylul University, Faculty of Medicine, Department of Medical Education, Izmir, Turkey.

Address for correspondence:
Ilgaz Akdogan, Pamukkale University, Faculty of Medicine, Department of Medical Education and Anatomy, Denizli, Turkey.
iakdogan@pau.edu.tr

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INTRODUCTION

Community based education (CBE) is an approach that aims for medical faculty students to encounter with the problems of the society that they will service for in the future starting from the early period of their education [1, 2]. It is considered that students will overcome these problems easily since they face it in their early terms and in an extensive manner. CBE is the teaching activities conducted within the society [1]. Not only students but also the faculty members, individuals in the society and representatives from the other sectors join these activities. This kind of education may be conducted in the rural, semi-rural or urban environments and society or primary, secondary phase health organizations [3, 4].

Community based medical education is a training approach that aims for health professionals to be trained in accordance with the conditions of their own countries [3]. Compatibility with the country conditions covers two dimensions; curriculum to cover the primary health problems of the country "Community oriented medical education" and application to include primary and secondary care health organization of the country [5, 6]. The importance of the Community based medical education in our country and the world has been emphasized with different applications. We can give Community based medical education applied

in the Gezira Faculty of Medicine giving Community based medical education that is student oriented and integrated in Sudan [7]. Here, students observe and monitor the villages at different level of development for the first year and collect health data for the first year. Cuba experience is another important example. Medical education has been applied as community based style with the medical education reform carried out in the 1982 in Cuba [8].

Students in the community based medical training; they can observe the relationship of medical sector with other sectors and social structure by working in the rural, semi-rural or urban region [9, 10].

Pamukkale University (PAU), Faculty of Medicine has adopted Problem based learning (PBL) as of 1999-2000 Academic year. PAU, Faculty of Medicine aims to educate students with powerful background in the public health and preventive medicine by applying problem based and student oriented education. In this sense, students of PAU, Faculty of Medicine pay visits to responsible units for the management of the health services, health units towards the community, and primary and secondary care medical services institutions within the province of Denizli in a way that they can observe the community objectives that PBL includes. The following is the field work in the PAU, Faculty of Medicine (Table-1).

Table 1: Field work table in PAU Faculty of Medicine.

Field Work	
First Year	
Orientation week	Introduction to field work – Conference Health organization in Turkey – Conference
Block 1: Cell Structure and Cell Division	Community Health Center/ Family Health Center (Kinikli and Honaz - Two different Centers in Denizli, Turkey)
Block 2: Membrane Transportation and Homeostasis	Servergazi State Hospital, Denizli, Turkey Denizli State Hospital, Denizli, Turkey
Block 3: Metabolism	Workplace Health Unit, Denizli, Turkey
Block 4: Inflammation and Introduction of Immunology	Private Hospital in Denizli, Turkey
Summer Internship	Primary health care centers in Turkey
Second Year	
Block 1: Genitourinary System, Chromosomes and Growth	Family Health Center in Denizli
Block 2: Respiratory, Circulatory System, Immunology and Epidemiology	Tuberculosis Dispensary
Block 3: Nervous System, Audiovisual System	Nursing Home in Denizli, School for the Visually Impaired in Denizli
Block 4: Gastrointestinal System, Haematopoietic system	Municipality Solid Waste Facility in Denizli, Municipal Drinking Water Facilities in Denizli
Summer Intership	Emergency services in Turkey
Third Year	
Block 1: Emergency (Acute Abdomen, Renal, Malnutrition / Malabsorption, Autoimmune, Cardiac and Respiratory Diseases)	Oral and Dental Health Center in Denizli, 112 Emergency in Denizli
Block 2: Infections Diseases (Gastrointestinal infection diseases, STD and CNS Infections)	Provincial Directorate of Agriculture
Block 3: Locomotor System, Psychiatric Diseases and Psychopharmacology	Alcohol and Drug Addiction Treatment Center in Denizli, Denizli State Hospital Smoking Cessation Center
Block 4: Oncologic Diseases	Cancer Early Diagnosis and Education Center in Denizli
Sixth Year	
Public Health (Rural Medicine) internship	Home visits for health services in Denizli

6th Year students are included in the medical education of “Medical Home Services Visits” as of 2012-2013 in the scope of the interprofessional education community based learning and development of the CBE. This education work (activity) has been realized in the PAU, Faculty of Medicine, Honaz Education Research and Health Group Presidency.

PAU, Faculty of Medicine 6th year students pay home visits as work subgroups of three with the Honaz District Public Health Center and Honaz State Hospital Medical Home Services team for a week within the Public Health and Rural Medicine for the Medical Home Services.

Denizli Medical Home Services started in 2007 by creating handicapped database in Denizli Health Department. Patients or relatives of the patients who need Medical Home Services apply to the family doctor that they are connected to, Public Health Center, hospitals and Medical Home Health coordination center. Our students pay visit to the patients registered in the handicapped data base with team. These visits contain regular visit of registered patients in the district and guidance services of Medical Home Services

Coordination. Home visits carried out by the Medical Home Services team. This team makes up of doctor, nurse, health personnel and driver. However, in the event of a need, expert doctor, physical therapist, social services expert, psychologist, lab technician and dietitian have been included to the team concerning the patient. Team contacts with the other social institutions (municipalities, social services institutions connected with the governorship, family and social policies provincial directorate and NGO) other than the health institutions for their social needs and mediates to meet the needs of the patient.

Students participate in all of the phases from call to the end of the visit, to the Medical Home Services Management System registration as an observer. Patient profile registered in the Medical Home Services Management System are the people that are bedridden and have 100% chronic diseases (cerebrovascular disease, diabetes mellitus, chronic obstructive pulmonary disease, hypertension, patient with mental disabilities, orthopedically handicapped patients, neurodegenerative disease patients (Alzheimer disease, Parkinson) and psychiatry diseases etc.).

Thus, the aim was PAU Faculty of Medicine 6th year students to know the bedridden and handicapped patients in biological, psychological and social sense and to know how to approach these patients and to understand the importance of these approaches and to act in coordination with the professional health team. The aim of this study was to determine the effects of IPE in a CBE program created for including of these objectives among the 6th grade medical faculty students.

MATERIALS AND METHODS

A survey has been prepared and evaluated towards the PAU Faculty of Medicine 6th year students (total 78 students, 6 group, each group n=13, 43 female and 35 male) for the actualization ratio of the targets of acting in coordination with the professional medical team of the 6th year students to know bed ridden and handicapped patients in biological, psychological and social sense. The permission has been granted by the PAU Ethics Committee for this study (No: 60116787-020/44609).

Likert scale survey form (Appendix-1) of 5 articles has been attached. There are 4 questions concerning the recognition of the society, 3 questions as to the health organization and guidance, 2 questions as to the team work, 2 questions as to professional and ethical values and 1 (general) question as to IPE asked in the evaluation survey. Furthermore, students are asked to evaluate this education with open ended questions.

SPSS for Windows was used for statistical analysis. The means were compared between the groups using the independent t test. A p value lower than 0.05 was accepted as being statistically different.

RESULTS

When we evaluate the Likert Scale Survey of 5 articles, the highest point has been given to the question of “This training helps me empathize with the patients and development of my humane and ethical values” (4.53) (Table-2). Questioning the findings was evaluated. “4.23” given to the “This training helps me understand the problems of handicapped and bedridden patients” in questioning to “concerning the recognition of the society”. “3.92” given to “As a result of the training, I have a chance to have information about the stakeholders in the Medical home services” in questioning to “the health organization and guidance”. “3.69” given to the “This training helps me develop my team spirit” in questioning to “the team work”. “4.53” given to the “This training helps me empathize with the patients and development of my humane and ethical values” in questioning to “professional and ethical values”. “4.07” given to the “I think that this training is beneficial and should continue” in questioning to “IPE” (Table-2). There are no statistically material differences between the intern student groups (t test, p>0.05). All results have been given in the attached Table-2.

Table 2. Likert scale survey questions of 5 and mean values (for total 78 students).

QUESTIONS	MEAN VALUES	QUESTIONING
		Concerning the recognition of the society
This training helps me understand the problems of handicapped and bedridden patients	4.23	
This training helps me evaluate socio-economic status of the society	3.84	
This training helps me realize the variable health issues of the society and region	3.92	
As a result of the training, I got information about the social rights of the handicapped people	3.84	
		The health organization and guidance
As a result of the training, I have a chance to have information about the stakeholders in the Medical home services	3.92	
This training helps me experience the medical evaluation visit phases as of the call	3.84	
This training helps me understand how to guidance patients in parallel with their problems	3.61	
		The team work
This training makes feel that I am part of the medical team	3.66	
This training helps me develop my team spirit	3.69	
		Professional and ethical values
This training helps me empathize with the patients and development of my humane and ethical values	4.53	
This training helps me communicate with the patient relative and people	3.69	
		IPE
I think that this training is beneficial and should continue	4.07	

DISCUSSION

Professionalism contains values required for all doctors and it should be brought in the medical education [11, 12, 13]. Introduction of Medical Home Services within the community based medical education via IPE method provides students to see larger approach and health application required for the patient [6, 10, 14, 15]. PAU, Faculty of Medicine adopts focusing on the community by the student as a basic learning way as of the beginning and includes IPE approach to its curriculum for its development.

The followings are the primary targets of the IPE applied in the PAU Faculty of Medicine: 1- Recognizing the community and health indicator of the community that they live, 2- Recognizing health organization and hierarchy, 3- Understanding the importance of the team work and interprofessionalism, 4- Understanding the importance of the professional, ethical and human values and communication.

When we evaluate the results of the survey conducted on the 6th year students of the PAU, Faculty of Medicine, we understand that empathizing with the patients and developing humane and ethical values are highlighted that are among the targets of the education. Helping to understand the problems of the handicapped and bed ridden patients has a high evaluation score that is among the objectives of the education. High score given to the question of “I think that this training is beneficial and should continue” may be evaluated for the continuation of the education.

We may define service learning activities, information about the scope of the services at the same time and establishing the relation between the academic lessons and them may be defined as structural learning experience [11, 16]. The fundamental objective of the IPE is to; educate students who have information, talent and behavior for being a cooperative people working in collaboration with each other in an effective manner [17]. In the applied survey, these questions are asked and answers are evaluated.

We can see community based medicine in so many countries in the world [3, 18, 19, 20]. Similar program of ours has been applied in the Mc Master University Faculty of Medicine. A program for the purpose of informing the students of medicine about the home care through interprofessional learning has been executed in Mc Master University Faculty of Medicine. Students participate in the home visits as group of two. Later on, students are interviewed to specify the challenging parts and structural reflections, focus groups and interview minutes have been analyzed. Students realize that there are unexpected life events in people’s life and great understanding and health application are needed for the patient [21]. Students express the same factors similar to our survey results. Minnesota University, students of Faculty of Medicine The PNC is a free health care clinic for the uninsured and underinsured throughout Minneapolis and surrounding communities have undergone a period of training under the control of the supervisors for the purpose of learning the operation of clinic in the Phillips Quarter

ClinicClinic that is a free health clinic for the uninsured people in the Minneapolis and its surroundings [22].

Sudan Vad Medeni is another example. Students in this module work in groups in the health center situated in the Vad Medeni and participate in giving medical service by working with different health personnel in the center [7]. In this module students are aimed to be included in the solution of the primary medical problems of the society through community courses. Another example is in Nigeria. In here, groups of 7-14 students accompanied with 2-3 employees each located in a village or another community for a period of one month and then they share an experience report sharing [23]. The name of the education program is COBES (Community-based Experience and Service) [23]. Another example of community based medicine education applied in Cuba. Academic education has been transformed to quarter polyclinics from the faculty of medicine campuses and continues by developing with the latest curriculum reform conducted between 2004 and 2005 in Cuba [8].

In 1995, Sudan Gezira University has been accepted as the “Gezira National Education Development and Research Center” and has been specified as WHO cooperation center. The mission of the center is to develop health profession, education and implementation, scientific research and community health centers [7]. Network of community oriented educational institutions for health sciences of which head office situates in Maastricht has been established by the gathering of the faculty of medicine giving community based education and problem based medical education. The primary target of this organization that support the community based education is the application of community based health profession education [24]. In the Faculty of Medicine in Canada Ottawa University, a program has been executed with a topic of “Patients with end of life problems to discuss”. In this program, an interview template has been developed to help freshmen medical students. An interview template has been prepared to work with patients with chronic diseases for the freshmen medical students in Ottawa University and second grade students have been informed about life and death. Long term Care and Old People’s Home visits have been planned on a systematic program [25]. Similar in Brazil, in 2012, education program named “The Multiprofessional Residency Program in Elderly Health (PRMSI)” has been started [19].

The importance of interprofessional learning and education for health professionals was emphasized in the 2010 report of a WHO Study Group: “Framework for Action on Interprofessional Education and Collaborative Practice” [15]. IPE should not only encourage good communications skills and awareness of the team member roles, but also students know, evaluate and take place in the health profession information and implementation applied in the health services [10, 17]. Our program has similar features. The interprofessional learning approach to be questioned by the students is also studies [26, 27]. The followings are the plans for future in PAU Faculty of Medicine.

- To collaborate with other health profession education programs in the same university to do a common community based module work.
- To start a project that can use a mixed model with several topics that provide IPE in different fields for elderly care and diabetic foot care institutions.
- To help combine team principles and skills with the project and develop IPE education programs for faculty members and clinician as an example for the students.
- To develop project involving topics that prepare the way for IPE such as personal care for chronic diseases such as diabetes or asthma, to do home visit with an objective to carry out project in the preventive services for geriatric and oncologic population and to start campaign for stopping smoking aimed at the students in the schools and universities [17].

Undergraduate medical education is an important time to forge attitudes and expectations about being a doctor [12, 28]. In conclusion, community based medicine application has been developed in a way that it includes IPE in PAU Faculty of Medicine. Students have a better understanding of the health problems of the community with this education. It's specified that this new education help them develop humane and ethical values and empathy, understand the problems of the handicapped and bedridden patients.

CONFLICTS OF INTEREST

The authors declare that they have no conflict of interest.

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APPENDIX-1:

**PAU FACULTY OF MEDICINE TERM 6 SURVEY QUESTIONS CONCERNING
THE MEDICAL HOME SERVICES TRAINING**

1 Absolutely disagree 2 Disagree 3 Not sure 4 Agree 5 absolutely agree

- 1- This training helps me understand the problems of handicapped and bedridden patients.**
- 2- This training helps me evaluate socio-economic status of the society.**
- 3- This training helps me realize the variable health issues of the society and region.**
- 4- As a result of the training, I got information about the social rights of the handicapped people.**
- 5- As a result of the training, I have a chance to have information about the stakeholders in the Medical home services.**
- 6- This training helps me experience the medical evaluation visit phases as of the call.**
- 7- This training helps me understand how to guidance patients in parallel with their problems.**
- 8- This training makes feel that I am part of the medical team.**
- 9- This training helps me develop my team spirit.**
- 10- This training helps me empathize with the patients and development of my humane and ethical values.**
- 11- This training helps me communicate with the patient relative and people.**
- 12- I think that this training is beneficial and should continue.**
- 13- Your considerations about the training:**