

## How does teaching clinical skills influence instructors' professional behaviour?

Yamani N., MD<sup>1</sup>; Yousefy A., Ph.D<sup>2</sup>; Changiz T., Ph.D<sup>3</sup>; Ashourioun V., MD<sup>4</sup>; Ghasemi M., MD<sup>5</sup>

<sup>1</sup> Educational Development Center, Isfahan University of Medical Sciences and Health Services

<sup>2</sup> Assistant Professor, Educational Development Center, Isfahan University of Medical Sciences and Health Services

<sup>3</sup> Assistant Professor, Educational Development Center, Isfahan University of Medical Sciences and Health Services

<sup>4</sup> Educational Development Center, Isfahan University of Medical Sciences and Health Services

<sup>5</sup> Educational Development Center, Isfahan University of Medical Sciences and Health Services

### ABSTRACT

**Purpose:** "Introduction to Clinical Medicine" in Isfahan University of Medical Sciences and Health Services is an initiative in which general practitioners work as instructors and have the opportunity to experience teaching in addition to clinical practice. Since teaching, affects both teacher and students, this study aims to assess the influence of teaching clinical skills on the instructors' psychological, social and professional behaviour.

**Methods:** This was performed as a qualitative study. The research population consisted of instructors of "Introduction to Clinical Medicine" who were all general practitioners and acted as facilitator in small groups working on physical examination and case discussion. The data collecting tool was a semi-structured interview which was recorded on the tape. Then, the interviews were transcribed and confirmed by interviewees at the end. 10 instructors were interviewed. The data were analysed according to Colaizzi model.

**Results:** After coding the data to 38 main subjects, they were classified into three main categories including professional, psychological and social effects. The influence of teaching on professional performance included performing a thorough and correct physical examination, taking a detailed and correct history, increasing decision making ability and increasing professional knowledge. Some of the psychological effects were increasing self-confidence, job satisfaction and morale. The social effects of teaching were increasing social contacts, having a relationship with an academic environment and having a respectful job.

**Conclusion:** Considering the positive effects of teaching on instructors, teaching clinical skills by general practitioners can increase general practitioners knowledge and clinical skills and improve their morale. It is recommended to train general practitioners both for teaching skills and clinical skills and consider this, as an opportunity for physicians' continuing education.

**Key words:** INSTRUCTOR, GENERAL PRACTITIONER, TEACHING, CLINICAL SKILLS

Journal of Medical Education Summer 2004;5(2): 41-45

### Introduction

Our educational programs should produce graduates with the characteristics our patients require, the doctors who are not only clinically competent, but also excel in interpersonal skills, team working and professional behaviours, and are capable of adopting in response to changing societal expectations and developing medical science (1). One of the recent changes in Isfahan University of Medical Sciences and Health Services was implementation of "Introduction to Clinical Medicine" courses in the general medicine curriculum. "Introduction to Clinical Medicine" acts as a link between basic medical sciences and

clinical medicine, and provides the possibility for medical students to learn basic clinical skills. Since, during this course, medical students are not still in direct contact with patients, hospital environments and clinics, some of their expectations from their future profession, is provided by this course (2). ICM employs young general physicians as instructors and tutors in practical and small group sessions. Normal physical examination and case discussion are included in this period. The instructors are general physician who are selected based on their interest in teaching, their interview results and the mean of their scores during their undergraduate medical education, then they are trained for teaching these

two courses through different workshops. They are energetic physicians who are knowledgeable and interested in education; they try to teach whatever is needed for a general physician and avoid unnecessary details (2). It seems that teaching affects both instructors and students, because, the instructors have to behave as a role model for their students and develop their performance in a way to be suitable enough for training their future colleagues. The instructor's role requires him to study different references, promote his/her clinical skills and develop his/her communications skills. The attainment of these skills, promotes the general, professional and social capabilities. On the other hand, since these young instructors replace for experienced faculties, they have to compensate for this which in turn induces a new feeling in the instructors that has to be explored. Findings of other researches suggest that, the physicians and students who acted as a tutor, had the opportunity of integrating the experience of a learner on the course with the experience of a teacher in the instructional system (3,4). In other countries, different medical staff such as medical students, residents and general practitioners are used as instructors of clinical skills for medical students, (4,5). Investigating general physicians who acted as instructors for interns showed that having a positive attitude towards teaching is essential for being a good instructor (5). Little information is available on the effects of teaching on general practitioners' morale, clinical skills and clinical practice. If beneficial changes can be shown, undergraduate teaching in general practice may have an important role not only in the undergraduate curriculum but also in postgraduate continuing medical education. This study tries to investigate the influence of teaching clinical skills on instructors, and to determine some strategies for taking advantage of these kinds of situations for promoting general physicians competences.

## Methods

In this qualitative study the instructors of "Introduction to Clinical Medicine" who were all general physicians and had been trained through different workshops for teaching "history taking", "physical examination" and "case discussion" to third year medical students were interviewed. The sampling was designed to achieve the maximum range of viewpoints and experiences of general physicians. The instructors were chosen according to their involvement in clinical practice such as working in a clinic or hospital in addition to their teaching job, to identify the professional effects of teaching as well.

A semi-structured interview was designed for collecting the data. The data under investigation included the positive and negative effects of teaching on different psychological, social and professional aspects of instructors. The selected physicians were contacted and invited for a 90-minute interview. The interviews were recorded and transcribed with the participants' permission. The 9 step Colaizzi method was used for data analysis (8). At first, the phenomenon under investigation was described, and then the participants' experiences were collected by interviews which were then transcribed. The main sentences which were related to the topics under investigation were extracted from interview texts. For validity of the data, the transcribed interviews were reviewed by 3 experts in qualitative research who confirmed the interviews from technical point of view. Also, three set of coded and interpreted data were confirmed by three interviewees. All data were coded and categorized based on the afore-mentioned areas. and then, the results were discussed.

## Results

Ten instructors were interviewed from a total of 30. Six GPs were female and four were male. They were 27 to 39 years old, and graduated 2 to 10 years earlier. Eight of them worked in a clinic or their personal office in addition to teaching, and had 2 to 5 semester, experience in teaching.

In general, experiences and influence of teaching were coded to 38 main subjects that were categorized into 3 main categories for better understanding and explanation.

### ***A. The professional effects of teaching Learning and performing the correct physical examination:***

Almost all participants believed that teaching physical examination motivated them to learn in details and perform a thorough physical examination on their patients. They revealed that, during their study time, they didn't have the opportunity to learn a correct and complete physical examination, and by teaching this course to medical students, they not only were aware of its importance for medical students but also it had helped them to promote their own skills.

***Taking a complete history with more attention to the patients:*** Since one of the subjects was communication skills, this affected the instructors also, and they paid more attention to the patient not just his/her symptoms.

Some of their comments is shown in box 1

***Decision making and patients' follow up:*** Since teaching increased instructors' self-confidence both in teaching and patient care, they could make

**Box 1: The effect of teaching on instructors' performance in physical examination and history taking**

- We didn't learn many things during our internship and study period such as physical examination which teaching in ICM, pushed me to learn them (GP.6)
- Now I examine my patients in more details (GP.8)
- I know what I'm looking for with my questions (GP.4)
- Now, I take my patient's history in more details (GP.8)

decision and refer their patients with more confidence. They also had a complete approach to their patient's symptoms and could follow their patients' problems with more confidence.

**Box 2: The effect of teaching on instructors' performance in decision making**

- I felt I could decide much better than before (GP=2)
- Teaching case discussion is very useful in approach to diseases (GP=5)
- All differential diagnosis comes to my mind and it has opened my eyes for diagnosis and ordering paraclinical tests (GP=3)

**The effect of teaching on knowledge:** Based on all participants' view points, teaching to medical students who study very hard and always have a lot of questions to ask, requires a complete knowledge of related references and texts. Therefore, teaching motivated them to study different texts and even medical journals. The ways it affected their study include: studying in a vast area, learning new things, studying in more depth, using new references, and reviewing the materials they hadn't learned properly before (Box.3).

**Box 3: The effect of teaching on instructors' knowledge**

- When you want to teach, you study more and in more details, it is very different from when you study for an exam (GP=8)
- It motivates me to refer to new references and learn new things (GP=6)
- I don't take the risk to go to the class without studying and learning every detail (GP=4)

**B. The psychological effects of teaching**

Increasing self confidence was one of the items all participants mentioned. They believed that, increasing their knowledge, their proficiency in

performing physical examination, contacting active and challenging medical students, all increased their self-confidence both in teaching and patients' care. Other psychological effects included: increasing job satisfaction, enjoying teaching, feeling of being useful, and increasing morale. Some of their comments are shown in box 4.

**Box 4: The psychological effects of teaching**

- The most apparent effect of teaching on me was increasing my morale (GP=5)
- You feel kind of satisfied that you could help future doctors learn something (GP=8)
- The feeling of having a successful teaching, has a positive role in increasing self-esteem (GP=7)

**C. The social effects of teaching**

One of the most apparent aspects of social effects was having others' respect for working at an academic environment. Some of them mentioned that working at university provided a situation for them to have an academic relationship with their colleagues, medical students and faculty members which they could take advantage of it in many ways. Among other social effects of teaching were increasing social contacts, having a respectful job, being related to academic environment and so on (box 5).

**Box 5: The psychological effects of teaching**

- I feel, others respect me more (GP=3)
- It is a university job and university has special value among people (GP=7)
- I am in contact with other physicians and faculty members and enjoy this relationship (GP=5)

**Discussion**

This study showed the positive effects of teaching on some general physicians. We also tried to find possible negative effects, but only one of the instructors mentioned that due to the extent of time, required for preparation, he was not able to continue his study for residency exam. In a study on radiology residents' experience as tutor, 16 residents who supervised 16 second year medical students for a period of 9 weeks, believed that, tutoring was very useful and just few of them mentioned that teaching affected their clinical activities (10). In spite of participants' variation in length of teaching experience, sex, age, working in clinic or hospital, duration of time since graduation and the medical school where they granted they medical degree, there was homogeneity of

responses, and their variation didn't affect the results. This positive attitude towards teaching has been also reported in other studies about general physicians (11).

The findings of another study on tutoring experience in a medical school suggest that acting as a tutor can be an appealing and constructive educational opportunity for further academic development (4). The general physicians in the present study believed that teaching increased their clinical skills, self-confidence and morale, and their professional knowledge.

The increase of self-confidence was one of the outcomes all participants agreed on which could be due to learning and performing a correct physical examination both for students and in clinic; working with their colleague physicians; contact with students and faculty members; working in an academic environment; increasing their professional knowledge.

A study on 30 general practitioners in London who taught clinical examination to medical students revealed that a renewed enthusiasm for clinical work was attributed to three factors: the contact with enthusiastic students, and greater confidence in clinical skills and knowledge. Changes in clinical skills and practice were reported as a result of teaching and were attributed to increased reading and reflection on practice, information from students, challenging questions from students, and more time with patients. Changes in practice included more systematic approach to clinical examination, specific changes in patient management, developing a clinical subspecialty role within the practice and disseminating information through the practice (11).

The instructors in this study mentioned that they had to prepare themselves for teaching and study the required text very carefully and thoroughly to face challenging students. On the other hand, discussions in small groups and the following discussions with colleagues and faculty members increased their knowledge in practice.

According to a study which examined teacher and student perceptions during the first 2 years of a complete transition from a conventional to a problem-based learning curriculum at Dalhousie University, teaching staff were very satisfied with their tutoring experience but expressed a need for further training in group facilitation, questioning, handling difficult situations and evaluating students (12). In 1994 the McGill University, preclinical medical curriculum was changed from discipline-based instruction to a problem-based approach, in which emphasis lies in student discussion of clinical cases with physician

mentors. Although the new curriculum had rapidly gained favour with students, it had also generated some problems such as diminishing pool of physician tutors to facilitate the small-group discussions. This paper proposed that physicians in clinical practice be trained to co-facilitate small-group discussions. Their complementary knowledge and similar training should provide a forum through which medical students will develop clinical reasoning skills, based on sound scientific knowledge, early in their training (13). The positive impact of teaching on general practitioners such as improving morale, confidence in clinical skills and clinical practice rely on providing good quality teacher training to novice teachers, ongoing support and adequate funding to permit teachers to reduce their clinical commitments (11).

Considering the positive effects of teaching, teaching clinical skills to medical students can be used to promote general practitioners' knowledge and practice and other capabilities. Other studies in this regard have mentioned the same thing; one of these studies suggests that "further studies are needed to quantify these changes which may have important implications for the role of teaching continuing medical education" (11).

For the better use of positive effects of teaching, it is recommended to consider instructors' problems such as financial problems and provide proper environment and facilities for their teaching. Also, implementation of training courses such as teaching methods and skills, and questions and answer sessions with faculty members is strongly recommended. Further investigation is required to study different aspects of teaching for continuing medical education purposes.

## References

- 1- Murray E, Gruppen L, Catton P, Hays R, Woolliscroft O. The accountability of clinical education: its definition and assessment, *Med Edu* 2000; 34: 871 – 876.
- 2- Ashourioun V, Dadgostarnia M. A comprehensive report and "Introduction to Clinical Medicine", Educational Development Center, Isfahan University of Medical Sciences, 2002; 6-5.
- 3- Sanson-Fisher R.W., Rolfe I E, Fones P, Rigland C and Argez M. Trialing a new way to learn clinical skills: systematic clinical appraisal and learning, *Medical Education*. 2002; 36: 1028-1034.

- 4- Sobral DT. Cross – year peer tutoring experience in a medical school: conditions and out comes for student tutors. *Medical Education*, 2002; 36: 1064-1070.
- 5- Gayosodiz P, Viana Zulaica C, Garcia Gonzalezy, Tojal del Casero. Family medicine tutors: attitudes and activities of tutoring. *Aten primaria*, 1995; 15 (8): 481-6.
- 6- Burns N, Grove SK. *Understanding Nursing Research*. Philadelphia W.B. Saunders CO. 1999. P: 87.
- 7- Gabriium J.F, Holstein J.A. *Handbook of Interview research context and method*: Warren Carol A.B. Qualitative interviewing. Sage publication 2002; P: 83-88.
- 8- Strubert HJ, Carpernter DP, *Qualitative research in nursing*. Philadelphia, Lippincott CO, 1999: P:61.
- 9- `Burns N, Grove SK. *The practice of nursing research*, Philadelphia W.B. Saunders Co. 1993: P:250.
- 10- Bui-Mansfield LT, chew FS. Radiologists as clinical tutors in a problem-based medical school curriculum. *Acad Rdiol*, 2001; 8 (7): 657-663.
- 11- Hartly S, Macfarlane F, Madeleine G, Murray E. Influence on general practitioners of teaching undergraduates: qualitative study of London general practitioner teachers. *BMJ* 1999; 319:1168-71.
- 12- Kaufman DM, Holmes DB. Tutoring in problem – based learning: perceptions of teachers and students. *Med Edu* 1996; 30(5) : 371-377.
- 13- Henderson JE, Conochie LB, Steinert Y. Co-tutors in the basis of medicine. *Clin Invest Med* 2000; 23(1):86-89.