# The Effect of Communication Skill Training on Clinical Skill of Internal Medicine and Infectious Disease Residents of Isfahan University of Medical Sciences

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## *Abstract*

***Background and purpose****: Clinical competence has four essential components: knowledge , physical exam , problem solving and communication skill .The communication skill isn't an optional extra in medical training but it is a core clinical skill. This study is performed in order to determine whether communication skill training for Internal Medicine and Infectious Disease residents improves their clinical competence.*

***Methods****: This study was performed in 2004-2005 in Isfahan University of Medical Sciences. Thirteen internal Medicine and Infectious Disease residents were involved in this study. We had 8 residents in group one and 5 residents in group two. Group one first participated in communication skill workshop and then their clinical skill was evaluated with objective structured clinical examination (OSCE1).Group two's clinical skill was first evaluated with OSCE 1 and then after participating in communication skill workshop again their clinical skill was evaluated by OSCE 2.The scores of group one in OSCE1 after participation in communication skill workshop were compared to group two in OSCE1 before the workshop. The scores of group two before the communication skill workshop (OSCE1)and after the workshop (OSCE2) were compared. Also the scores of group one after the workshop(OSCE1) and group two after the workshop(OSCE2) were compared.*

***Results****: Group one after the communication skill workshop had significantly higher scores in clinical skill compared to group two before the workshop. Group two had significantly higher clinical skill scores after the communication skill workshop compared to the clinical skill scores of the same group before the workshop.*

***Conclusion****: Communication skill workshop significantly improved the clinical skill of Internal medicine and Infectious disease residents.*

***Keywords****: TRAINING, COMMUNICATION, CLINICAL COMPETENCE, RESIDENCY*

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## Introduction

Medicine as we know it today has been started in the 19th century when scientists studied the anatomy and the physiology of the human being systematically (1). Before this there was no scientific basis for medicine. Medical doctors only studied the symptoms of their patients and

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didn't pay much attention to the disease process (2). From decades ago the doctored-centered medicine has moved toward patient-centered practice(2). With a disease-oriented approach the physician deals only with the disease process, exerting authority over the patient to control abnormal biomedical processes (2). In contrast the patient –centered physician addresses the disease process, the patient's illness experience and the overall psychological and social contexts (2).The medical interview is central to clinical practice. It has been estimated that doctors perform 200000 consultations in a professional life time(3).Clinical competence has four essential components: knowledge, physical examination, problem solving and communication skill (3).Communication skill is not an optional extra to medical training but it is a core clinical skill.60%-80% of diagnosis in medicine is based on information that has been gathered in medical interview (3). Medical interview is the unit of medical time and it is the few critical moments for the doctor to help the patients with their problems. While the doctor may see each consultation as one of many routine encounters ;for the patient every interview may be the most important or the most stressful aspect of their week (3). Communication in medicine doesn't mean only being nice to the patients but it increases the effectiveness of the medical interview (4).Effective communication increases the accuracy, efficiency and supportiveness of the medical interview and it increases the health outcomes of the patients (4). Communication demands teaching just as much as the physical examination .It is not just a matter of personality. Of course personality is important but much of our ability to communicate has been learned and is not simply inherent in our genetic makeup. Unfortunately, communication skills do not necessarily improve with time. Experience may well be a poor teacher for improving it. Studies demonstrate that without specific training in communication skills, medical students' ability to communicate tends to deteriorate as they progress through their traditional medical training (3). There are enough evidences for over 20 years that specific communication skills training can lead to improvements of this skills in doctors. (3). It has been shown that medical students who underwent a training program in history taking skills during their psychiatry clerkship reported almost three times as much relevant and accurate information after a test interview as those who received only the traditional apprenticeship method of learning history-taking skills.(3). To assess the state of formal and informal communication skill training at Dalhousie Medical School in Canada a needs assessment was undertaken in 1997 with the goal of using these findings to plan and implement a new communication skills curriculum. Results revealed learners' and faculties' appreciation of the importance of communication skill training. The results also indicated that communication skill training was generally not being addressed either formally or informally in clinical medical education.(5)

A study in Isfahan demonstrated that when general practitioners attended communication skill workshop their own self esteem and their patients' satisfaction were improved.(6)

So communication skill is a core clinical skill and experience is a poor teacher for learning this skill. Communication skill should be teached and learned. In different countries communication skill teaching has been integrated in their medical education programs , and the results showed the positive effect of this on medical students' and also established doctors' performance. These studies show that communication skill teaching has positive effect on medical students' and also established doctors' performance .But few studies has been performed about the effect of communication skill teaching on the performance of the residents .This study is designed in order to teach communication skills to the residents and to evaluate its effect on their clinical skills.

**Material and methods**

This was an interventional study. The population studied were 13 Internal Medicine and Infectious Disease residents that were selected from the first ,second and third year of residency. They

were divided in two groups consisted of 8 and 5 residents. The first group (8 residents) participated in the communication skill workshop. Then the clinical skill of this group was assessed by OSCE 1 (Objective Structured Clinical Examination).The second group(5 residents) were first assessed by the OSCE1 and then they participated in the communication skill workshop and were re- assessed by OSCE2 .The Communication skill workshop took place in three sessions. Each session was from 9am-1pm at Thursday mornings.The teaching methods used for the communication skill workshop were short lectures, role playing, demonstration of standard and nonstandard communication skills by showing films and discussing about the films. The workshop's program was derived from Calgary-Cambridge guide(3,4,9). For evaluating the results of the workshop we used standard patients .Detailed writing instructions were given to the standard patients describing clinical aspects of their assumed illness and specific directives for their role playing. To assess the residents' skills in history taking, physical exam, diagnosis and treatment; observers rated their skills by a specific checklist .Our cases for the OSCE were constructed by faculty members of Internal Medicine and Infectious disease departments. The items of the checklist were selected from the OSCE guideline of Chicago University and therefore their reliability and validity were already controlled ;then they were modified according to our cases.The scores of every resident in history taking, physical exam, diagnosis and treatment were calculated separately and totally(as clinical skill). The scores of both groups were compared with each other. Also the scores of group two were compared before and after the communication skill workshop. The results were analyzed by SPSS 11.5.

## Results

The mean age of the two groups were compared by t- test and there was no significant difference between them. There was no significant difference between the sex and the year of residency between the two groups.The results of participating or not participating in the workshop in the two groups are displayed in table-1,table-2 and table-3.

In table-1 the scores of group one after participation in the workshop (OSCE1)and group two before participation (OSCE2) has been shown.The mean scores of history taking; physical exam ;diagnosis and management in OSCE1 in group one and group two were compared by t- test.

The results showed a significant difference between the two groups in the mentioned skills except diagnosis. The mean score of clinical skill as a whole in OSCE1 in group one after participating in communication skill workshop and group two before the communication skill workshop were compared by t- test and their results showed that

**Table 1.** The mean score in history taking, physical exam , diagnosis ,management and clinical competence in group one* and group two** in OSCE1***

| Skill | Group | Mean score | Standard deviation | p |
|---|---|---|---|---|
| *history taking skill* | One | 77 | 11 | 0.04 |
| | Two | 64 | 5 | |
| *Physical exam skill* | One | 90 | 10 | 0.001 |
| | Two | 60 | 14 | |
| *Diagnosis skill* | One | 100 | 0.00 | 0.22 |
| | Two | 96 | 8 | |
| *Management skill* | One | 95 | 11 | 0.008 |
| | Two | 60 | 27 | |
| *Clinical skill* | One | 85 | 8 | 0.004 |
| | Two | 70 | 7 | |

** Group one: communication skill workshop(csw)—— OSCE1****

*** Group two:———— -no csw ———— OSCE1** *———- csw ————-OSCE2*

there was a significant difference between the two groups.In table-2 the scores of group two before and after participating in the workshop has been shown. In this group the mean scores of history taking; physical exam, diagnosis and management before (OSCE1) and after(OSCE2)participating in communication skill workshop were compared and the results showed a significant difference in all of the skills mentioned except the diagnosis.

The mean score of clinical skill as a whole in group two before and after participating in communication skill workshop were compared and the results showed a significant difference.

**Table 2.** The mean score in history taking, physical exam, diagnosis and management and clinical competence in group two* in OSCE1**and OSCE2***

| Skill | Time of test | Mean score | Standard deviation | p |
|---|---|---|---|---|
| *history taking skill* | *before class* | 66 | 2 | 0.00 |
| | *After class* | 81 | 1.67 | |
| *Physical exam skill* | *Before class* | 60 | 1.41 | 0.003 |
| | *After class* | 92 | 1.09 | |
| *Diagnosis skill* | *Before class* | 96 | 0.89 | 0.374 |
| | *After class* | 100 | 0.00 | |
| *Management skill* | *Before class* | 60 | 1.67 | 0.034 |
| | *After class* | 90 | 0.89 | |
| *Clinical skill* | *Before class* | 70 | 7 | 0.002 |
| | *After class* | 87 | 8.7 | |

** Group two:———— no communication skill workshop(csw) ———————— OSCE1**———————— csw————OSCE2****

There was no significant difference between group one(OSCE1) and group two (OSCE2) in the mean scores of history taking ,physical exam, diagnosis and management and also clinical skillas a whole after the communication skill workshop.

**Table 3.** The mean score in history taking, physical exam, diagnosis and management and clinical skill in group one* in OSCE1**and group two*** in OSCE2****

| Skill | Group | Score | Standard deviation | p |
|---|---|---|---|---|
| *history taking skill* | One | 78 | 11 | 0.573 |
| | Two | 81 | 4 | |
| *Physical exam skill* | One | 90 | 10 | 0.751 |
| | Two | 92 | 10 | |
| *Diagnosis skill* | One | 100 | 0.00 | |
| | Two | 100 | 0.00 | |
| *Management skill* | One | 95 | 11 | 0.742 |
| | Two | 93 | 14 | |
| *Clinical skill* | One | 85 | 7 | 0.592 |
| | Two | 87 | 3 | |

** Group one: communication skill workshop (csw)—OSCE1***

**** Group two:————————no csw———————— ————————OSCE1**——— communication skill workshop—OSCE2****

## Discussion

The objective of this study was to show the effect of communication skill training on clinical skill of Internal Medicine and Infectious Disease residents of Isfahan University of Medical Sciences.Our data suggest that communication skill workshop significantly improved overall residents' clinical competence as well as the residents' skills in history taking, physical exam and management .The residents' skill in diagnosis didn't change after participating in the workshop

and almost all of the residents made the correct diagnosis in the OSCE before and after the communication workshop .It's reason was maybe because that our OSCE cases were too simple for the residents and mostly based on mental skill.

The ultimate goal and outcome of visiting patients is to improve their health status which is achieved by management skills of the physicians and management is directly related to communication with patients . Also evidence shows that communication is the basis of every medical interview and medical interview is the basis of medicine (8).

A study performed in Isfahan showed that teaching communication skills to physicians increased their patients' satisfaction and so the health outcomes (6).

Another study performed in Southern Illinois University demonstrated that there is a moderate relationship between clinical competence and interpersonal and communication skills (9).

A study performed on 630 medical students from the entering classes of 1996,1997,and 1998 showed that that a strong focus on communication and professionalism ,with an emphasis on doctor patient communication skills, is an increasingly important part of the medical school curriculum, if we are to graduate competent ,professional physicians (10).

To determine whether communications training for medical students improved specific competencies known to affect outcomes of care a communications curriculum instituted in 2000-2001 at 3 US medical schools was evaluated with OSCEs.The same OSCEs were administered to a comparison cohort of students in the year before the intervention . One hundred thirty-eight randomly selected medical students in the comparison cohort ,were tested at the beginning and end of their third year (1999-2000),and 155 students in the intervention cohort ,were tested at the beginning and end of their third year. Students exposed to the intervention significantly outperformed those in the comparison cohort (11).

A review done by Aspergren identified and quality graded 180 studies on teaching and learning communication skills in medicine. The review concluded that there is overwhelming support for the fact that communication can be learned and not just by students but by physicians at all levels of medical training and practice .The review also showed that specialists were as likely to benefit from learning communication skills as primary care doctors (12).

Iranian literature review showed that there has been few studies about teaching communication skills to the doctors.A study showed the positive attitude of the faculties of Isfahan university of medical sciences toward teaching communication skills to their residents (13). In another study there has been shown that although residents have a positive attitude toward communication skills their knowledge about this subject is not enough (14). Communication skill training is now internationally accepted as an essential component of medical education (15). Communication skill is essential for being a good doctor and communication skill is an important part of clinical skill that should be teached and learned. Teaching communication skills to Iranian residents will increase their clinical competence and it should be integrated in their residency programs.

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