



## The influence of role-modeling on clinical empathy of medical interns: A qualitative study

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### Abstract

**Introduction:** Clinical empathy ascertains the quality of doctor-patient relationship and entails beneficial outcomes for both parties. Role-modeling is a major factor in promoting clinical empathy skills of medical students. The present study attempted to explain the importance of role-modeling in clinical empathy of medical interns. It was also intended to obtain a better and more profound understanding of the subject based on the experiences of medical interns.

**Methods:** In this qualitative conventional content analysis, semi-structured individual interviews were conducted with 14 medical interns and 6 clinical professors. The participants were selected by purposive sampling. All interviews were recorded, transcribed, and analyzed. Trustworthiness, credibility, and confirmability of the data were confirmed.

**Results:** Data analysis led to the emergence of a theme called role-modeling, and two subcategories: “advertent role-modeling” and “inadvertent role-modeling”. Advertent role-modeling included “influenced by the charismatic personality of professors”, “critique of faculty members’ communicative behaviors with patients”, and “observation of the faculty members’ performance”. Inadvertent role-modeling included “crystallization of human values in communication behaviors” and “compliance with hierarchical behavior”.

**Conclusion:** Role-modeling was the main theme of the present study. To improve clinical empathy skills, particular attention should be paid to role-modeling. Informing clinical professors and medical students on role-modeling, strengthening students’ empathetic behaviors by role model professors, and recruitment of professors with strong communication skills are among the recommended strategies of this study.

**Keywords:** Medical students, Empathy, Role-modeling, Qualitative study

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### Introduction

Clinical empathy is one of the main components of professionalism (1). It indicates the ability of a physician to understand the patient’s perspectives and feelings, and convey this understanding to the patient (2).

Clinical Empathy is the cornerstone of patient-oriented doctor-patient relationship (3, 4). Clinical empathy produces beneficial outcomes for the patient and doctor (5). Previous studies have shown that the doctor’s clinical empathy increases satisfaction (6), reduces stress and

improves patient's quality of life (7), and leads to more correct diagnoses and better therapeutic outcomes (8). Clinical Empathy prevents occupational burnout and reduces doctors' stress, and potentially improves their quality of life (9). Clinically empathetic doctors will be happier in the working environment, enjoy visiting patients, and become clinically more capable (10).

The positive effects of clinical empathy have made various institutions including General Medical Council (GMC), and Association of American Medical Colleges (AAMC), American Board of Internal Medicine (ABIM), Accreditation Council of General Medical Education (ACGME) emphasize the promotion of clinical empathy during medical education (11) and its evaluation at the time of the students' graduation (12).

One of the strong strategies for improving professional competencies, such as clinical empathy, is role-modeling (13), which is the best way to convey professional values and conducts (14). Medical students are faced with and affected by this educational method throughout their education (15). The importance of role-modeling is emphasized in medical education throughout the world (16). In clinical teaching settings, medical students learn their professional skills through role-modeling (17). For effective use of role-modeling in clinical training, this key factor should be especially identified in clinical empathy. Although many studies have examined role-modeling, this process has not been fully recognized, and it is regarded as a complex and puzzling process (13). The majority of studies on this subject have been conducted in the North American and European countries, and only a few in the Middle-Eastern countries such as Iran (18).

Most studies conducted on empathy and role-modeling are quantitative, and simulated environments cannot be trusted for clarifying ambiguities about role-modeling and clinical empathy (19); therefore, this problem should be studied in a real setting in order to obtain profound results. Thus, given involvement of medical interns and clinical professors in the process of role-modeling and the formation of clinical empathy, the present study seeks to answer the question: "What experiences these two groups have about role-modeling associated with clinical empathy?" In this connection, the present study aims to explain the role of role-modeling in clinical empathy of medical interns so as to provide a deeper understanding of the effect of role-modeling on the promotion of clinical empathy.

## Methods

This qualitative study applied conventional content analysis. The study participants included medical interns and clinical professors from Iran and Ardebil universities of medical sciences. Inclusion criteria for students were commencing internship and willingness to participate in the study. The interns were selected by purposive sampling, which continued until data saturation. For transferability and acceptability of the data, the interns were selected with maximum variation in terms of the study year, gender, and marital status. To complete the data and answer the questions raised by the interns during the interviews, clinical professors were also included in the present study. The clinical professors were different in terms of specialty, number of service years, and managerial experience.

The data were collected through individual semi-structured interviews. The time and place of the interviews were arranged according to the participants' preference, and the interviews were held in quiet settings. Anonymity of the participants, confidentiality of their data, the need to record interviews, and the possibility of withdrawal from the study were explained to all participants, and an informed consent was obtained from them before commencing interviews. The interviews began with a general open question, and probing questions were asked according to the participants' responses and interview process, and the interviewer assessed the accuracy of their understanding by asking deeper questions. Each interview lasted 30-60 minutes.

Finally, all interviews were analyzed. According to Graneheim & Lundman (2004) such a method (20) includes 1) transcribing interviews, reading and re-reading the transcripts several times to obtain a general understanding; 2) extracting meaning units and their classification under condensed units; 3) reclassifying condensed units and their semantic labeling; 4) arranging subgroups according to similarities and differences; and 5) choosing the appropriate name for the subgroups.

Data trustworthiness was increased by member check, that is, a summary of each individual interview text was returned to the participant to confirm the accuracy of the researchers' understanding. To ensure objectivity of the data, the external check was used. When no agreement was reached on certain codes and categories, the researchers continued debating until consensus. Data trustworthiness was ensured through auditing. To this end, the interviews were recorded and codes and categories were documented with relevant quotations. Furthermore, the interns

and professors interviewed from nephrology, cardiology, infectious diseases, internal medicine, and maternity wards provided space triangulation. To increase the data accuracy, the researchers from the mentioned disciplines analyzed the data by observing them from different angles (investigator or interdisciplinary triangulation). To ensure auditability of the data, two external auditors were asked to analyze a sample of interview contents so that repeatability of similar categories could be ensured.

## Results

In this study, fourteen medical interns (ten women and four men) and six clinical professors (two women and four men) were interviewed. The mean age was 26.2 years for interns, and 46 years for clinical professors. The mean academic year of interns was 6.5 years and the mean work history of the clinical professors was 13.8 years. The participants frequently talked about the influence of clinical professors on students' communication behaviors, and emphasized the importance of role-modeling in the formation and promotion of clinical empathy. According to the data, role-modeling was the main theme, which was divided into "adventent" and "inadventent" role-modeling.

### 1. Adventent role-modeling

In this type of role-modeling, students purposefully and knowingly note their professors' communication behaviors and try to reproduce them. This sub-category includes three concepts: "influenced by the professor's charismatic personality", "critique of the professor's relationship with patients", and "observation of the professor's performance".

#### 1.1. Influenced by the professor's charismatic personality

From the participants' perspective, observing communication behaviors of renowned professors has a significant effect on the behaviors of interns. According to the participants, role-modeling differs from one professor to the other; that is the professors with a particular manner have a greater effect on students. A participant commented: "There is a couple of outstanding professors that you like and they influence more, but there are some who have no effect on their students." (M8, 25 years old, sixth year intern). Another participant argued: "A student learns from a professor that has the ideal standards, especially rapport with patients" (M13, 26 years old, sixth year intern). Generally, the students stated that they learn more from a professor

with an attractive and inspiring personality. A participant said: "When I saw how modest my great professors were, and understood that the more educated you are, the more modest you should be, I dramatically changed my behavior" (M3, 25 years old, sixth year intern).

#### 1.2. Critique of faculty members' communication behaviors with patients

The Participants' experiences suggest their mental ability to analyze and interpret communication behaviors. A participant explained: "Adventent or inadvertently, students learn a series of issues and analyze and imitate their professors' behaviors" (M20, 53 years old, male professor, medical toxicology subspecialty, with 18 years' work experience as the hospital education deputy). Another participant said: "At entry to hospital, we see how others, for example, professors, treat patients, and we analyze their behavior and gradually learn how to initiate and continue communication to create the patient's cooperation" (M2, 27 years old, fifth year intern). Another participant argued: "I have thousands of memories from both well-behaved and disrespectful professors, which formed my behavior. I am similar to the person that I liked the most" (M17, 45 years old, female professor, internist with 15 years of experience). A participant explained: "Our professors are our role models, we learn from them how to treat patients. We see who has a good relationship with the patient and who does not. We see that some professors are very strong in terms of behavior and communication" (M12, 25 years old, sixth year intern).

#### 1.3. Observing faculty members' performance

Medical students observe their professors' behaviors over their study years, and before they have adequate expertise, perform procedures by role-modeling from professors' behaviors through frequent observations. A participant explained: "A student watches how his professor deals with a patient's problem, and learns from him." (M16, 43 years old male professor, infectious diseases, seven years of work experience as hospital education deputy). Another participant said: "In busy wards, one can see how professors treat patients and empathize with them, and gradually learn" (M12, 25 years old, sixth year intern). Another participant added: "When we first entered the hospital, we didn't know what to do, and we watched our professors both in terms of technique, and relationship with patients" (M7, 26 years old, fifth year intern). Another intern said: "When visiting patients, one of our surgery professors gets annoyed if you order an unnecessary chest



*X-ray. I have witnessed this many times” (M6, 34 years old, seventh year intern)*

## 2. Inadvertent role-modeling

In this type of role-modeling, a person is implicitly influenced by the model without the intention to role model. This category includes “development of human values in communication behaviors” and “compliance with hierarchical behavior”.

### 2.1. Crystallization of human values in communication behaviors

It was evident from the participants’ statements that professors were one of the most important reference groups that students advertently or inadvertently were influenced by their behaviors and manners. A participant argued: *“Our behavior models have changed. We used to have very prominent models, but now, everything has changed; nothing is in its own place. We used to have such professors like Dr. X, and even the way his students spoke inadvertently has changed”* (M15, 50 years old, female professor, nephrology subspecialty, with 20 years work experience, department manager). Another student said: *“Professors are our models in every aspect, and their communication behaviors with other professors affect our behaviors”* (M10, 26 years old, fifth year intern). A professor said: *“Over the years, I have seen professors’ humiliating treatment of students, and students are easily influenced, and they will treat patients and students in the same way when they become professors themselves”* (M18, 55 years old, male professor, cardiology subspecialty, 21 years of work experience, former hospital head).

### 2.2. Compliance with hierarchical behavior

The participants emphasized the influential role of hierarchy of people. A professor remarked: *“In some specialties, professors’ treatment is transferred to the entire group. When most professors have the same treatment, this will be seen in future generations”* (M16, 43 years old male professor, seven years of work experience as hospital education deputy). A participant also commented: *“There is a hierarchy in medicine from student, intern, resident, and fellow, which makes us learn scientific issues from each other and see the treatment of patients in a hierarchical way”* (M14, 25 years old, seventh year intern).

## Discussion

To the best of our knowledge, it is for the best time in this study that perceptions of students and faculty members on students’ role modeling

behaviors in the field of clinical empathy were investigated. The main finding of this study, advertent and inadvertent role-modeling can be considered as the best strategy for improving empathy skills of medical students. This finding confirmed the assumption of Passi and Johnson in 2016 that advertent and inadvertent role modeling may improve students’ professional behavior (21).

In line with our study results, in a qualitative study by Ahrweiler et al. one of the main themes was the influence of professors on increasing or decreasing empathy through role-modeling. In this study, the participants cited positive and negative models in the workplace. They mentioned that those models increase their awareness of the influence they have on the development and consolidation of organizational culture (22).

In a study by Yazigi et al. in Lebanon, almost all students acknowledged that they had witnessed positive models during their study, and more than half of them considered role-model’s effectiveness in the formation of their clinical skills. But contrary to our results only one third of them regarded role models’ effectiveness on acquiring human attitudes (18). Role-modeling has its own particular complexities, and the effect of role-modeling on empathy cannot be easily commented on, and requires further studies.

In a study conducted by Wright et al. the majority of students had a role model during their medical studies. Personality, clinical competence, and the ability to teach were the most important features in choosing a role model (15). In line with our study results, Wright study showed that role models created enthusiasm in students by impacting their attitude. However, Wright et al. used a questionnaire for data collection but role-modeling was selected as the main theme.

In a study conducted by Lempp and Seale on medical students’ perception of hidden curriculum, the role modeling theme was positively extracted, and the students acknowledged that role models affected their performance. The female role models also affected their humane aspects (23). In their study, Lempp and Seale interviewed only students and focused on the issue of hidden curriculum, but eventually reached the theme of students’ role-modeling from professors.

In line with our study results, in Esteghamati, et al. study, the residents accepted clinical professors as role models (24). Also, in Goldie study, clinical professors were considered as positive role models, and the non-cognitive attributes such as interpersonal relationships were emphasized (25).

In our research, the participants quoted that students sometimes cleverly adopt the behavior of their role models. At the first level, after observing the behavior of their role model, they begin to emulate their behavior. At the second level, while observing their teachers, students begin to analyze their interaction with patients and consequently they may adopt their roles. This is different for charismatic faculty members. From the students' perspective, there is no need to think about charismatic teachers' individual behaviors and students entirely and unconditionally accept those professors' behaviors. Therefore, this warning should be given to charismatic professors that all of their behaviors, even their unofficial behaviors and aims are deeply monitored and assessed by their students. Emulating someone shows that the emulator aims to achieve the intention of the role model. As a result, the purpose that is derived from the behavior of the role model is more important than the behavior per se.

Given the main theme in the present study that emphasizes medical students' role-modeling of charismatic professors, and taking into account the study conducted by Hojat et al. suggesting the difference in personality attributes of role models compared to other people including greater enthusiasm to deal with problems, greater control over their motives, and being more easy-going (26), role model professors should be identified and be trained about role-modeling techniques. In addition, recent studies show that charismatic behaviors and talks can be taught and learned. Therefore, professors can be taught to strengthen their charismatic attributes. Charismatic people often emphasize communication, positive influence, motivation, altruism and attraction towards others (27). Charismatic professors have an empathetic spirit, and are sensitive to students' needs, and teach enthusiastically (28). Thus, to promote medical students' empathy, recruiting professors with such personality and professional attributes must be taken into account.

According to the participants, modeling by students can be done unconsciously, too. In the setting of clinical education, considering the hierarchy, students are unquestionably following the higher level people. We were all aware of the conscious observation of behavior, but now understand that attention to the power of the unconscious component is essential.

In line with our study, Cruess et al. also mentioned that learning from role models occurs through observation and reflection, and is a complex mix of conscious and unconscious activities (29).

Due to the importance of role-modeling in

the formation of professors' behaviors in medical students, medical educators seek to identify this unknown process (21, 29, 30). Passi and Johnson have defined the process of role-modeling as a two-stage process including advertent and inadvertent stages. In the inadvertent stage, the process of reflection occurs through emphasis and encouragement, and role-modeling changes from an implicit and hidden mode into an explicit and open mode (13). Accordingly, they stress that the phenomenon of reflection should be used to change the hidden process of learning into a tangible and assessable process (31).

Therefore, in order to better understand the unconscious processes of role modeling by students, it is necessary to document the perceptions of students and teachers in this regard. Also faculty members need to be aware of the conscious and unconscious components of learning from role modelling so that the net effect of the process is positive.

Role-modeling is based on Bandura's cognitive-social learning theory, which emphasizes role-modeling to improve self-efficacy. In this theory, the observed and imitated behaviors should be reinforced by the observer for greater effectiveness of role-modeling, so that they can be repeated (32). Therefore, students should be encouraged to observe and then debate admirable behaviors of model professors, and efforts should be made to reinforce such behaviors in students. Thus, medical curricula need to allow professors sufficient time to discuss role-modeling with students, and thus increase its effectiveness (33).

Compliance with hierarchical behavior and crystallization of human values in communication behaviors were two concepts extracted in the present study that match the principle of reproduction in Bandura theory. According to this principle, the individual replaces his experience with the experience of the observed person. In this way, interns and residents observe professor's behavior and continue to role model the hierarchical behavior, and thus cause a similar kind of behavior to be observed in a particular group or specialty. To improve communication behaviors and empathy in students, professors and students should be sensitized to this issue.

Given that experienced professors are role models for students and other less experienced professors, they should recognize their own place and influence as a model and try to improve their performance in this respect (15). They have the duty to act as a proper model for students and their young colleagues (34).

### Limitations

The benefits of qualitative researches, such as this content analysis study, include its provision of in-depth understanding of experiences elicited from a small group of participants. This understanding can provide theoretical foundations for further mixed-method and quantitative studies. Clearly, the findings of this study are limited to the experience of a group of medical students at two medical schools. For further understanding, qualitative studies, particularly those using ethnographic methods, involving students, doctors, patients and their relatives should be pursued.

### Conclusion

To improve the process of role-modeling and subsequently enhance clinical empathy of medical students, informing clinical professors and medical students of role-modeling process, strengthening empathetic behaviors of students and recruiting capable professors in terms of communication and conduct can provide a strategy for enhancing medical students' empathy. It is recommended that further prospective or experimental studies be conducted to assess the effects of role-modeling on various skills of medical students, so that the effectiveness of role-modeling can be better explained.

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