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PURPOSEFUL INTERACTION AS THE MAIN CONCERN, REGARDING STUDENT-TEACHER RELATIONSHIP IN CLINICAL SETTING: A QUANTITATIVE STUDY IN AN IRANIAN CONTEXT

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ABSTRACT

Background: Improving the relationship between students and teacher is crucial for better learning. Through an effective relationship, students become motivated, ask more questions and engage actively in the learning process. Since this relationship is context related, clarifying it through qualitative study in different educational environments is crucial. In clinical setting i.e. where both student and clinical educator has multiple responsibilities (educational duties , patient's care and treatment and research), relationship is of great importance since it is mostly face to face and constitute valuable experiences for students. This study aims to explore experiences of internal residents about relationship with their attending physicians to give better understanding about it in clinical setting. Method: The study was conducted using qualitative content analysis (Graneheim, 2006) through semi structured interviews to gather information to explore the nature of the relationship between internal residents and their attending physicians in 2014. Participants were 10 residents of internal medicine (first to fourth year of their residency) and 9 of their clinical attending physicians in educational hospitals of Tehran University of Medical sciences. Results and Discussion: The main concepts explored in this study including: selection, clinical purposeful interactions and learning in clinical setting. In case of existence a respectful, continuous and safe relationship between attending physicians and their residents in all academic ranks, learning happens through mostly role models whom were selected by residents. Instead, in temporary, or of top-down interactions, most of students' learning is from their senior colleagues. Conclusion: It seems that in clinical settings, relationship between internal residents and their attending physician forms through selection and making purposeful interaction. In this way, residents learn mostly from their role models or their senior colleagues. Given the importance of student- teacher relationship in learning, future studies must address how to assess different approaches to inhibiting improper relationships, and how to use and evaluate strategies for making effective relationship in clinical setting.

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Introduction

Teaching is a reciprocal communication [1]. Many studies provide evidence that a strong and supportive relationship between the teacher and students is fundamental for their healthy development [2]. Through effective relationships, learners disclose

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their lack of understanding rather than hide it from their teachers, are more attentive, ask more questions and are more actively engaged in the learning process [3]. Characterized by inspiring, supporting, actively involving, and communicating with students, excellent teaching transcends ordinary teaching. These effects resulted from a productive relationship, and lead to an emotional arousal in the student. A good teacher recognizes the student–teacher relationship as an educational tool [4]. The relationship between teacher and student plays a major role in achieving favorable outcomes in medical education [3]. In the relationship-based medical education, the central role of the relationships in determining how students incorporate new knowledge and acquire professional values within trusting interactions with teachers is emphasized [5]. In clinical setting i.e. where both student and clinical educator has multiple responsibilities (educational duties , patient's care and treatment and research), relationship is of great importance since it is mostly face to face and constitute valuable experiences for students [6]. Interaction between teacher and students affects the learning process and should be clarified in different environments through appropriate research methods. Although there are some research on relationship between teachers and students and factors that affected it there is still the need to specify the nature of this relationship in clinical settings [3].
This study employs a qualitative design to explore internal residents' experiences about relationship with their attending physicians in clinical settings in order to improve learning via strengthening this relationship.

Method

In Tehran university of Medical sciences, internal residents have rotation in different Internal wards (Hematology and Oncology, Rheumatology, Nephrology, General, Gastroenterology, Pulmonary disease, Endocrinology) at different educational hospitals. Participants were selected purposefully which ensured the inclusion of 10 internal residents from each year (from year 1 to4).Both male and female residents as well as 9 male and female attending physicians at each of the Tehran University of medical sciences' hospitals and internal wards. This research was carried out after being approved ethically by the Research Ethics Committee, Tehran university of Medical Sciences (No.1393/7/19). Informed consent was obtained from all participants and they were assured of their anonymity Semi structured interviews conducted by main researcher as data synthesis strategy. Based on the participants' choice, interviews were conducted either in the ward or teachers' office or student's rest room (for internal residents). Each resident or teacher participated in a semi-structured interview which lasted approximately45 min (30-90 minutes). At first, some questions were asked about their experiences of student-teacher relationship. Questions addressed strategies that attending physicians apply in clinical settings (morning report, educational round and outpatient clinics) for supporting and challenging residents, the ways they use for residents' learning and feedback and then the interview process was guided through regarding the participant's answers. For our study, a qualitative method, using content analysis (Graneheim 2006) was considered appropriate. For this reason, required data was gathered directly from participants, without any pervious hypothesis. Codes and categories were derived through an inductive process and then conceptually ordered based on their properties and dimensions.
Interviews were recorded and then transcribed verbatim by main researcher. Transcriptions were reviewed and analyzed simultaneously via conventional content analysis. This process continued up to data saturation [7]. For data analysis, each interview was read several times carefully to determine meaning units. Then meaning units were abstracted through condensation to create codes. Codes were listed, reviewed and compared for similarities and differences within the interviews. Then categorization of codes through reduction was performed. Credibility was established through prolonged engagement with data, triangulation of data sources (main researcher observation in clinical settings, interview with internal residents and their attending physicians), member checking, peer debriefing and review of data analysis with supervisors. For dependability, renewed coding of the interviews was carried out by colleagues who had experience in coding qualitative data.

Results

Nine clinical teachers with the mean age of 48 years old participated in this study, five of which were male and four were female. The mean of experience years were 16.5(ranging from 2 to 30 years).The students taking part in this survey included seven male and three female residents in their first to fourth year of internal medicine assistance with the mean age of 29 years old. Data analysis revealed three main category and eight subcategories in relationship between medical students and their clinical teachers. (Table 1)

Selection

In each reciprocal communication, both sides select each other intentionally according to previous background and some important characteristics. These are in selection category, which consists of 2 subcategories as: factors related to clinical teacher and factors related to the course.

Table 1. The results of data analysis

Category	subcategory	code
Implicit selection	factors related to clinical teacher	age
		Clinical teacher characteristics
	factors related to the course	Length of the course
		Student's level
Purposeful clinical interaction	top-down communication	condemning students
		Verbal violence
	Making safe frontage	Maintaining patient confidence
		Respectful communication with students
Learning in clinical settings	Choosing role model	professionalism
	Teacher guided learning	More feedback
		Better knowledge transfer
	Peer-Learning	Person to person learning
	Self- learning	Patient follow-up

One of the effective causes in communication which internal residents mention is attending physician's age. Generally residents preferred the younger attending physicians and believed that they understand them better.

"When they get older it becomes difficult for them to pay attention to details, some students are entirely skipped. They don't even answer the questions."(Resident)

The attending physicians with greater knowledge and better teaching abilities are more welcome among the residents. They are more selective and communicative.

"The issue is that how much does the teacher have expertise on the subject he's trying to teach? And our knowledge on how much he's experienced? Is it worth listening or not?" (Resident)

Special teacher qualities such as eagerness for education and teaching, patience and getting involved with patients are important factors in drawing the student to the teacher and establishing a suitable connection between them.

"Some have totally mistaken the educational environment of the university with their business..But for some it's not about the money, they love teaching. They're the ones that teach the best." (Resident)

Some personal characteristics of attending physicians like patience, calmness and having respectful manner are of great importance for residents to making and maintaining communication with them. Even in case of lack of respect, residents may choose avoidance of relationship.

'When I have 3 to 4 teachers, I prefer to go to the more patient one and the one that answers me more accurately. There are some teachers that kill your passion when you ask them questions so that you prefer not to ask anything." (Resident)

Factors related to course planning such as: length of course and students' level in that course, affect the amount and quality of communication between residents and attending. The duration of contact also has an impact on the quality of relationship which was specifically evident in the experiences of attending physicians:

"The matter of time is important, the more specialized department, the less contact time."(Resident)

Purposeful clinical interaction

Educational interaction between attending physicians and residents at the bedside depend on their characters, the level of recognition of each other and clinical environment. It consists of a wide range of one-way communication and mainly inappropriate to respectful communication and peaceful interactions. Purposeful clinical interaction, consist of the two subcategories, top-down communication and making safe frontage.

Communication from up to down was related to experiences of residents, such as resident destruction(attending get angry and show disrespect behavior with the student in front of patient).

"Some of attending physicians don't care .it is really important for us not to lose patients' trust. Some of them don't comply but others do." Resident

This type of communication (from the attending) mainly express as a strict reaction in case of life-threatening faults, overreaction in case of failure to behavior correction with patient and things like that is associated with patient's health.

"We should consider what is missed in his/her level. If it is life-threatening, our response is much harder". Attend

Sometimes top-down communication shows as some kind of verbal violence:

"The personality I talked about was mostly negative, like trying to bust the students, inappropriate behavior in the morning reports… they can talk better, treat better." (Resident)

Most of attending physicians claim that respect their residents in their approach.

"Often when I ask questions, I don't wait to get the answer; this can make them feel bad. I don't face the younger ones to ask questions, so that their dignity stays intact. In all my encounters this is the best value that I try to pursue." Attend

Also they try to maintaining patient confidence through avoidance of giving negative feedback to students in front of them.

"I, myself, always try to consider not saying negative feedback to students in front of patients, it is not appropriate." (Attend)

Learning in clinical setting

Student- teacher interaction in clinical environment is to learn, in professionalism and communication domain, this is mainly through choosing role models. In other fields, it seems that learning happens mostly through hierarchy of residents. If there isn't an appropriate relationship in clinical settings, it leads to self- learning.

Choosing role model is one of the sub categories. Both attending and residents have the same ideas that attending are evaluated by the resident, and according to the result of this evaluation, acceptance and choosing or rejection him/her as role model occurred.

"In the same way that attending assess us precisely, I assess him/her exactly too. I observe attending gestures, words, ordering for patient, patient management certainly and it depend on which mental image is created by attending and to what extent he/she is acceptable for us, based on it, training that she/he give us, our attention attracted to himself/herself, it depend on more to attending performance." Resident

Choosing role model is mainly related to affective domain training issues, behavior with patient and professionalism.

"When I go to the ward, I try to have greeting with patient, have fun and I try the student watch me well. Well, later when they will be in my position, certainly like to have a perfect control of their own section. So I think, they see as a role model." Attend

When there is an appropriate relationship, residents learn through support and guidance of their attending physicians mostly by making questions.

"Students tend to ask questions from particular teachers. Some teachers are great, they answer the questions very well and help you understand better. Students are more comfortable asking their question from these attending." Resident

But more training about procedures are done through residents at higher levels and sometimes by attending.

"Most of our training is person to person and we learn more by chief resident." Resident

In case of improper relationship, because residents are the first line who visits patients, they compare their diagnosis with the seniors or fellows, in this way, they use self- learning.

Discussion

This study gives an insight into elements influencing relationship between internal residents and their attending physicians in clinical environments as revealed by internal residents themselves and their clinical teachers. We found that in the presence of constant contact, attending physicians and internal residents in different levels know and select each other to communicate. Interactions have a wide range from respectful relationship (which is along with relaxation) to a top-down communication. Depending on the type of relationship internal residents decide to choose their role models and the way they want to learn. Characteristics of clinical relationship are major elements of setting up a constructive learning environment which leads to better learning. Some barriers like time shortage were mentioned by residents and clinical teachers as influencing factors on this relationship. Qureshi and Maxwell (2012) also noted that lack of time interfere with the task of bedside teaching as well as the relationship between medical students and teachers [8].

One study found that making more time for relationship through addition of attending physicians' shifts improved mean student's satisfaction with bedside teaching, faculty ratings of their student interactions, Faculty perceptions of resident interactions, quality of bedside teaching, their availability to hear resident's presentations and their supervision of the residents [9]. Also lack of time was classified as one of the key challenges for mentors and mentees [10]. Continuity of relationship over time is another important factor expressed by residents and medical teachers. This factor also shows great importance of quality of the supervisory relationship in medical education guidelines for effective educational and clinical supervision [11]. Most residents stated that in general clinical environments, they learn more and better because they can interact with their clinical teachers immediately.

Some researchers said that students found clerkship in general practice very useful for learning because personal contact with a general practitioner provides opportunities for practicing under supervision and sharing overwhelming experiences [12]. Residents have more tendencies toward clinical educators who were more knowledgeable, more competent and able to transfer their knowledge to their residents. In line with these findings some studies reported that residents want knowledgeable clinical instructors who provide opportunities for practice and are available to help [13]. Residents' short-term clinical rotations make them dependent on their clinical teachers' support. Spouse in her qualitative study also found that effective support from mentors significantly enhanced the students' ability for adjusting to clinical settings and learning [14]. Rezaee and Ebrahimi also in their investigation proposed that an efficient social support might enable the residents to apply their knowledge and skills [15]. Just like the physician–patient relationship, the supervisor–trainee relationship by definition is one of unequal powers. Based on the intimacy of mentoring relationships, medical supervisors may be especially prone to deviating from professional role boundaries with their trainees. The major sources of these reported deviations were found to be hospital-based clinical attending physicians [16]. Some residents complained of humiliation and dignity destruction while teachers believed that they treat them respectfully and as young colleague. These findings were compatible with the results of a study about Postgraduate Hospital Education Environment by Al-Marshad and Alotiabi which found that the level of trainees' supervision, long working hours, unavailability of clinical protocols, inefficient use of training time, lack of constructive feedbacks and presence of blaming-culture were major issues for trainees [17]. The same facts resulted from another study which reported the lack of an atmosphere of mutual respect and blame culture to be the main weaknesses [18]. Results of the

study on attributes of excellent attending physician role models showed that engaging in activities that help build relationships with residents was associated with an increased likelihood of being recognized as an excellent role model [19]. Residents in clinical environments are equipped with relevant theoretical knowledge but can't apply it to practice perfectly. They need help from experienced and knowledgeable clinical teachers to relate this knowledge to their practice. Lambert and Glacken in their literature review about clinical education facilitators stated that the ability to scaffold knowledge-in-waiting to knowledge-in-use depends upon available resources and the social environments in which students work and learn [20]. In this study, despite that some attending physicians help residents to learn procedural and clinical skills by doing those skills with residents' participation and giving feedback to them, but considerable number of internal residents stated that they learn clinical skills from their senior colleagues. Self-learning is another way to compensate improper training. It seems that factors such as: short time courses and presence of blame culture in some clinical environments are common causes. In this situation because of lack of appropriate supervision good training may be don't happen. In clinical setting, where attending physicians and students have different responsibilities, better relationship can help to provide appropriate educational context for learning.

Given the importance of student- teacher relationship in learning, future studies must address how to assess different approaches to inhibiting improper relationships, and how to evaluate strategies for making effective relationship in clinical setting.

Competing interest

The authors declare that they have no competing interests.

Authors' contribution:

AE: participated in design of study and interpreting of data, carried out coordination of study

MG: participated in designing of study, acquisition of data, interpretation of data, drafting the manuscript

HB: participated in acquisition of data and drafting the manuscript

AM: participated in acquisition of data and interpretation of it.

BM: participated in design of study and interpreting of data.

HK: participated in interpretation of data, drafting the manuscript

All authors read and approved the final manuscript.

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