

INTRODUCTION

Higher education is the cornerstone of human development in each country. Universities are the most important academic venues that seek to prepare students for various professions by providing a variety of training and communications (1). Effective training relies on correct utilization of communication skills. University professors, drawing on their knowledge, textbooks and teaching skills and through creating an appealing environment, seek to facilitate learning in students (2). Establishing a good relationship between professors and students is a skill that must be nurtured by both parties; otherwise, no relationship is established or an extremely feeble relationship is developed, which in turn can give rise to a host of related consequences (3). The first vital step for professors to establish class relationships is to ascertain different expectations of male and female students. A strong student-professor relationship in teaching process is of paramount importance. Knowledge can be learned in different ways, but for many students, especially those who are not competent enough in learning and thinking skills, the professor continues to play the role of facilitator and catalyst (4). Effective communication between professors and students is vital to increasing the effectiveness of teaching and learning process so that the best subjects and most appropriate circumstances can be rendered inactive and unappealing in case the professor fails to establish an optimal relationship. In the process of training, a relationship is embodied in form of an exchange of ideas and information between the professor and students (5). In the process of educational communication, a number of factors and variables including teachers, message and environmental issues are involved. Therefore, the factors involved in student-professor relationship are of critical importance in improving the teaching process (6). One of the key factors in learning is the mutual understanding and trust between an instructor and learners. The increased relationship between a professor and students leads to the enhanced self-esteem and learning motivation of students (7).

In this study, attempts have been made to explore wider and deeper implications of factors affecting student-professor relationship. Getting to know the viewpoints of students on this subject helps gain a better picture of professors from the perspective of students, and through the provision of appropriate planning, it can contribute to the informed decision making and evaluation of professors. Given the important role of professors and the need for student-professor interaction in teaching process, recognizing the features of a successful professor from the perspective of students as well as professors' commitment to realize these features can further improve the quality of education. If professors and students become familiar with the viewpoints and expectations of each other, the process of research and education would be geared towards the predefined goals.

METHODS

In this descriptive-cross sectional study 240 male and female students studying at three levels of apprenticeship, internship

and residency in General Surgery Department in the years 2013-15 for a period of 8 months over four two-month terms, out of which 160 male and 80 female students at three levels of apprenticeship ($n=134$), internship ($n=48$) and residency ($n=58$) were chosen as sample population.

According to the systematic stratified sampling design (different academic levels are assumed as design strata) from among the population under study a minimum sample size of $n=240$ (160 male and 80 female students) was determined. Estimation of sample size was performed using NCSS & PASS statistical software.

The data collection instrument was a standard questionnaire, which included two demographic factors (gender and being native) and three domains (personal, professional and academic characteristics of professors). In each of these domains, there were 10 items on personal characteristics, 7 items on professional characteristics and 5 items on academic features. In this study, the respondents were asked to rate their opinions about each item on a 5-point Likert scale ranging from strongly agree (5) to strongly disagree (1).

Then, based on the results of previous section and the sample size, the questionnaires were distributed amongst subjects using stratified method during 8 months over four two-month periods. It should be noted that questionnaires were given to the participants who filled the informed consent form and they were ensured that the data would remain confidential.

RESULTS

The results of quantitative section of the study showed that of 240 students in various academic levels, there were 160 male and 80 female students at three levels of apprenticeship ($n=134$), internship ($n=48$) and residency ($n=58$). The results also indicated that the number of native students ($n = 135$) was greater than non-native students ($n=105$).

Table 1 shows the students' perspective about university professors in three personal, professional and academic domains. The results showed that the highest mean, assuming the existence of student-professor relationship in educational and learning activities in all three domains, belonged to professional characteristics of professors (4.06%) whereas the lowest mean was related to the academic features of professors (3.69%).

The results of t-test showed that among personal, professional and academic characteristics of professors, only the factor of gender (personal), student participation in class discussions (professional), academic rank of the professor and precedent of research and teaching activities (academic) were significantly in the views of male and female students. In other cases no significant difference was observed between male and female students.

According to the results of ANOVA test, in the view of apprentices, interns and residents, there was a significant difference between personal, professional and academic characteristics of professors only in terms of gender (personal), ease of access to the professor outside the classroom, student participation in class discussion (professional) and precedent of research and educational

Table 1. Students' perspective about university professors in three personal, professional and academic domains

	N	Mean (SD)	Total Mean
personal characteristics	Professor's Gender	240	3.1625 (1.19)
	Professor's Appearance	240	3.6792(1.02)
	Professor's Confidence	240	4.2083(0.86)
	Professor's Flexibility	240	4.3292 (0.88)
	professor's humility	240	4.2917(0.82)
	The Professor's Popularity	240	4.1875(0.88)
	professor's affability	239	4.3096 (0.83)
	professor's Criticism	238	4.1050 (1.02)
	equality in dealing with students	240	4.2958 (0.85)
Professional characteristics	Professor's Accountability	239	4.3598 (0.83)
	being respectful to students	240	4.4292(0.82)
	Student Solve problems	240	4.0750 (0.96)
	Motivating students	240	4.2750 (0.81)
	Use the promotional tools	240	3.7667(1.18)
academic characteristics	ease of access outside the class	240	3.6583(1.18)
	The ability to understand the lessons	237	4.3966 (0.88)
	student participation in class discussions	240	3.7958(1.25)
	The Professor's academic rank	240	3.3333(1.32)
	Mastery on academic subjects	240	4.3458(0.81)
	precedent of research projects	240	2.9583(1.19)
	precedent of educational activities	240	3.4083(1.22)
	being up-to-date	240	4.4292(0.75)

activities (academic). No significant difference was observed in other factors.

DISCUSSION

The professor-student relationship is not limited to the mere transfer of knowledge, but in addition to scientific issues, students tend to identify with their professor's personality. Thus, the positive interactive student-professor relationship constitutes an important social support which can assist students in dealing with various issues. That is, besides gaining knowledge in an academic environment, students can learn several other lessons from the professors which are irrelevant to that particular field of study. The factors affecting the student-professor relationship is integral to the improvement of learning process. To identify these factors, the "personal, professional and academic" characteristics of a professor were investigated in this study.

The personal characteristics of the professor

The results of this study demonstrated that among the personal characteristics of professors, only the factor of gender was significantly in the view of male and female students at different academic levels of apprenticeship, internships, and residency. The results of the research hypothesis suggested that among personal characteristics of professor, flexibility, humility and modesty, popularity and reputation, agreeability, fairness

and accountability of professors had the highest effect on student-professor relationship. In contrast, gender had the lowest impact on student-professor relationship.

The internship and residency students' professor's gender there is no difference, but the apprenticeship student's professor's gender there is no difference.

In internship and residency student's view, there is no difference between professor's genders (men and women); however in apprenticeships perspective professor's genders are significant.

The study of Abedini et al. on the factors affecting student-professor relationship suggested that among personal characteristics, fairness in dealing with students, accountability, intimacy and sympathy had the highest effect and gender, age and appearance had the lowest effect on student-professor relationship. This is consistent with the findings of this study (8).

The study of Abidi et al. on the variables influencing student-professor relationship revealed that agreeability, modesty, secret-keeping and trustfulness of a professor had the greatest effect while gender, age and appearance had the lowest effect on this relationship. It is in agreement with our findings (9).

In the study of Bahador et al., in line with the findings of the present research, factors such as respecting and honoring students, fairness in dealing with students, being receptive to

criticism and flexibility were the important factors in student-professor relationship (10).

Ghadami et al. reported that temper and morals of a professor, sympathy, mutual understanding and problem solving were integral to the establishment of student-professor relationship, whereas gender and age were of little significance in this regard (11).

Professional characteristics of a professor

Consistent with the literature, the results of this study demonstrated that among professional characteristics of a professor, only the factor of student participation in class discussions was significantly different in the views of male and female students. Despite that, the results showed that two factors of ease of access outside the classroom and student participation in class discussions were different in the views of apprenticeship, internship and residency students.

The results of testing research hypothesis suggested that among professional characteristics of a professor, respect for students, dedication to solve student problems, motivating students, proper and timely utilization of incentive tools, clear transfer of learning materials, ability to convey key learning points and student participation in class discussions had the greatest effect on student-professor relationship, followed by the ease of access to the professor outside the class.

The study of Abedini et al. on professional characteristics of professors indicated that respect for students and timely application of incentive tools had the least effect on student-professor relationship (8).

The academic characteristics of a professor

In keeping with the previous research, the results of this study demonstrated that among academic characteristics of a professor, the factors related to the academic rank, history of research projects and educational activities were significantly different in the view of male and female students. Accordingly, the results revealed a significant difference between three factors of academic rank, precedent of research projects and history of educational activities in the view of apprenticeship, internship and residency students. The results of testing research hypothesis showed that

among academic characteristics of a professor, mastery of course materials and being up to date had the highest impact on student-professor relationship. In contrast, two factors of academic rank and the history of research activities exerted the lowest impact on student-professor relationship. The study of Abedini et al. on the academic characteristics of professors indicated that mastery of course materials and being up to date had the highest effect whereas the history of research activities had the lowest effect on student-professor relationship, which is in agreement with the findings of this study.

The results showed that in the view of male and female students, factors of gender, student participation, academic rank of the professor and precedent of research projects and educational activities were significantly different. Moreover, a comparison of the views of apprenticeship, internship and residency students with regard to the above three domains suggested that only factors of gender, ease of access outside the class, student participation in class discussions, academic rank and the precedent of research projects and educational activities were significantly different. The findings indicated that with regard to the relationship between professor and students in all above three domains, factors such as humility and modesty, popularity and reputation, agreeability, fairness, accountability, respect for students, problem solving, motivating, utilizing incentive tools, ability to communicate course materials to students, student participation in class discussions, mastery of course materials and familiarity with most recent scientific research had the highest effect whereas gender, academic rank and research precedent of the professor had the lowest effect on student-professor relationship.

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