Assessment of communication skills and self-efficacy levels in general and postgraduate dentistry students in 2020: A cross-sectional study

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Original Article

Abstract

BACKGROUND AND AIM: Physician-patient communication is the most prominent part of medical art. The ability of the healthcare professional team to communicate appropriately can influence the patient's experience as well as the patient's overall health. The objective of the present study was to examine the communication skills and self-efficacy levels in general and postgraduate dentistry students of Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

METHODS: The present cross-sectional study was conducted on general students (4th year to 6th year) and postgraduate dentistry students at School of Dentistry, Ahvaz Jundishapur University of Medical Sciences from 9.9.2020 to 9.23.2020 in the academic year 2020/2021. A pilot-tested, communication skill and self-efficacy assessment questionnaire was distributed to the participants. The reliability and validity of the questionnaire were verified and confirmed. Moreover, a demographic questionnaire with questions on basic demographic information was included at the beginning of the questionnaire. Data were analyzed using descriptive statistics, t-test, and Spearman correlation coefficient via SPSS software.

RESULTS: The overall response rate on the survey was 57%. In total, 85.4% of the participants were general dentistry students, 38.2% of whom were fourth-year students. The grade point average (GPA) was 16.09 ± 1.61. Most of the students scored above average in various areas of communication skills. No significant difference was found between general and postgraduate students except in the field of closure. A positive correlation was found between self-efficacy and all fields of communication skills including introduction and reception ($r = 0.486$), medical history ($r = 0.591$), clinical checkup ($r = 0.673$), closure ($r = 0.423$), and patient ($r = 0.507$).

CONCLUSION: The results showed a significant correlation between self-efficacy and all field s of communication skills among general and postgraduate students. Well-designed training courses addressing communication skills are recommended in both general and postgraduate dentistry practice. Since self-efficacy and communication skills are inter-correlated, enhancing students' self-efficacy can improve the dentist-patient communication.

KEYWORDS: Communication Skills; Dental Student; Self-Efficacy

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Physician-patient communication is the most prominent part of medical art. Communication skills are considered the essential soft skills important for human progress and development.[1] The ability of the healthcare professional team to communicate appropriately can influence the patient's experience as well as the patient's overall health.[2-4] The efficient communication skills in patient-physician interactions increase access to valuable experience-based health information. De van specified that doctors should meet the mind of the patient before meeting the mouth of the patient.[5]

Physician-patient relationship, following

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clinical consultations, is a critical element of the patient-physician interaction.[6] Clinical competences without real communication may not be enough to ensure the quality of care and patient satisfaction.[7] Appropriate physician-patient communication is the first step in building trust which helps patients to feel less anxious and worried and leads to successful treatment as well as patient's health management. Several studies have shown that good patient-physician communication improves patient satisfaction and compliance with a treatment plan.[1,8] Establishing relationships, negotiating, and facilitating patient cooperation are the main components of a good communication.[9]

The main goals of physician-patient communication are as follows: 1- developing good interpersonal relationships (patient satisfaction with dentist reduces burnout and improves job satisfaction), 2- exchanging information (dentists need the information to find differences in patient expectations and preferences; this difference, if left untreated, can affect treatment outcomes), 3- making treatment-based decisions (to find out the nature of the problem and its solution, communication must take place during the dental visit),[10] and 4- promoting medication adherence (improving dental patients' adherence reduces the number of formal and malpractice complaints).[5]

Physician-patient communication comprises verbal and nonverbal components, including physician's ability to ask appropriate and relevant questions, the ability to listen patiently to the patient, the ability to answer questions with a sense of connection and mutual understanding, the skill of conversation, the ability to break bad news, developing and expanding counseling skills, empathy, and body language.[11] In the past, patients were less actively involved in treatment decision-making. Nowadays, due to the ease of searching for different treatment plans and awareness raising, patients ask dentists for more information about their treatment. They have more

opportunities to inquire and talk about their oral health. As a result, effective communication enables dentists to better respond to their patients' needs.[7] Memarpour et al. concluded that communication skills should be taught, particularly to students involved in clinical practice.[12]

Khalifah and Celenza in a systematic review suggested that dental students realized the importance of interpersonal skills and were interested in learning communication skills.[13]

Due to the importance of physician-patient communication in dental treatment outcomes, the present study was conducted to examine the communication skills and self-efficacy levels in general and postgraduate dentistry students of Ahvaz Jundishapur University of Medical Sciences, Ahvaz, Iran.

Methods

The present cross-sectional study was conducted on general dentistry students (4th year to 6th year) and postgraduate dentistry students at School of Dentistry, Ahvaz Jundishapur University of Medical Sciences in the academic year 2020/2021. A total of 157 general and postgraduate dentistry students were selected for the study using the census sampling method. A written informed consent for participation was obtained accordingly. The study was confirmed by the Ethics Committee of Ahvaz Jundishapur University of Medical Sciences (reference number: IR.AJUMS.REC.1399.313).

A pilot-tested communication skills and self-efficacy assessment questionnaire with introduction and reception (5 questions), medical history (12 questions), clinical checkup (8 questions), closure (3 questions), patient (3 questions), and self-efficacy (11 questions) fields was distributed to the participants. The total score ranges from 42 to 210, with a higher total score indicating higher self-esteem. The reliability and validity of the questionnaire were verified and confirmed based on the previous relevant studies. The communication skills

questionnaire was already validated by Pakdaman et al.[1] study and the self-efficacy questionnaire was already validated by Ghaffarifar et al.[14] study. In this study, the questionnaire was validated and confirmed to be reproducible [content validity ratio (CVR), content validity index (CVI) = 1, Cronbach's alpha = 0.9].

The questionnaire was posted online on a site (https://survey.porsline.ir/s/p4HNsXY). It was accessible online for two weeks. The survey link was distributed to participants via social media WhatsApp group. The questionnaire was implemented using forced answering (FA) option (the students were forced to answer each question to proceed through the questionnaire). Furthermore, a demographic questionnaire with questions on basic demographic information [gender, marital status, academic year, grade point average (GPA), residence status, level of satisfaction with the field of study, faculty outside employment, and history of communication problems] was included at the beginning of the questionnaire. Data were analyzed using descriptive statistics, t-test, and Spearman correlation coefficients via SPSS software (version 21, IBM Corporation, Armonk, NY, USA). P-value less than or equal to 0.05 ($P \leq 0.05$) was considered statistically significant.

Results

A total of 157 general and postgraduate dentistry students [106 women (67.5%), 52 men (32.5%)] participated in this study. In total, 85.4% of the participants were general dentistry students, 38.2% of whom were fourth-year students. The overall response rate on the survey was 57% and the GPA was 16.09 ± 1.61. Table 1 provides a summary of the socio-demographic background of dental students. The items of the questionnaire were rated on a 5-point Likert scale (1 = never, 2 = seldom, 3 = sometimes, 4 = usually, 5 = always).

Table 1. Socio-demographic background of dental students

Variable	n (%)
Gender	
Women	106 (67.5)
Men	51 (32.5)
Marital status	
Single	133 (84.7)
Married	24 (15.3)
Degree	
General student	134 (85.4)
Postgraduate student	23 (14.6)
Grade	
4th grade	60 (38.2)
5th grade	35 (22.3)
6th grade	44 (28.0)
Missing	18 (11.5)
Residence status	
Indigenous	112 (71.3)
Non-Indigenous	45 (28.7)

Most students scored above the median in each communication skill and self-efficacy field. No significant difference was found between general and postgraduate students in any field of communication skills and self-efficacy, except in the field of closure (Table 2).

The correlation between communication skills and demographic information using the Spearman test is shown in table 3.

Table 2. The mean and standard deviation (SD) of communication skills and self-efficacy in general and postgraduate students

Category	Range of scores (median)	General students (mean ± SD)	Postgraduate students (mean ± SD)	P*
Introduction and reception	15-25 (22)	21.67 ± 2.02	21.34 ± 1.58	0.450
Medical history	36-60 (52)	51.42 ± 4.66	50.21 ± 4.03	0.240
Clinical checkup	24-40 (35)	34.91 ± 3.36	35.26 ± 2.87	0.640
Closure	9-15 (12)	12.63 ± 1.40	11.95 ± 1.39	0.034
Patient	9-15 (12)	12.70 ± 1.47	12.39 ± 1.15	0.320
Self-efficacy	32-55 (45)	45.47 ± 5.08	46.56 ± 4.04	0.330

*Derived from t-test
SD: Standard deviation

Table 3 Correlation between communication skills fields and demographic information in dental students

Category	Self-efficacy	Introduction and reception	Medical history	Clinical checkup	Closure	Patient	Job satisfaction	Job burnout	Work experience	Academic year
Self-efficacy	1.000	0.486**	0.591**	0.673**	0.423**	0.507**	0.540	0.187*	0.024	-0.103
Introduction and reception	0.486**	1.000	0.465**	0.528**	0.247**	0.274**	0.172*	0.109	0.093	-0.252**
Medical history	0.591**	0.465**	1.000	0.715**	0.392**	0.433**	0.103	0.164*	0.004	-0.199*
Clinical checkup	0.673**	0.528**	0.715**	1.000	0.435**	0.508**	0.054	0.138	-0.088	-0.085
Closure	0.423**	0.247**	0.392**	0.435**	1.000	0.434**	0.028	0.138	0.044	-0.133
Patient	0.507**	0.274**	0.433**	0.508**	0.434**	1.000	0.410	0.063	0.020	-0.051
Job satisfaction	0.054	0.172*	0.103	0.054	0.028	0.041	1.000	0.069	-0.136	0.005
Job burnout	0.187*	0.109	0.164*	0.138	0.138	0.063	0.069	1.000	0.161*	0.003
Work experience	0.024	0.093	0.004	-0.088	0.044	0.020	-0.136	0.161*	1.000	-0.224**
Academic year	-0.103	-0.252**	-0.199*	-0.085	-0.133	-0.051	0.005	0.003	-0.224**	1.000

*Derived from Spearman's rho, correlation is significant at the 0.05 level (2-tailed); **Derived from Spearman's rho, correlation is significant at the 0.01 level (2-tailed)

No correlation was found between communication skills, self-efficacy, and GPA. Moreover, no significant relationship was found between job satisfaction and gender (P = 0.15).

The mean score of communication skills in the introduction and reception field was 21.60 ± 2.02 in general students and 21.34 ± 1.58 in postgraduate students. The median score in this area was 22 and about 17.8% of participants scored lower than this level.

The mean score of communication skills in the medical history field was 51.42 ± 4.66 in general dentistry students and 50.21 ± 4.03 in postgraduate students. The median score in this area was 52 and about 6.4% of participants scored lower than this level.

The mean score of communication skills in the clinical checkup field was 34.91 ± 3.36 in general dentistry students and 35.26 ± 2.87 in postgraduate students. The median score in this area was 35 and about 10.2% of participants scored lower than this level.

The mean score of communication skills in the closure field was 12.63 ± 1.40 in general dentistry students and 11.95 ± 1.39 in postgraduate students. The median score in this area was 12 and about 29.9% of participants scored lower than this level. Although the difference between general and postgraduate students in this field was statistically significant, the difference was not clinically significant. The mean score of communication skills in the patient field was 12.70 ± 1.47 in general dentistry students and 12.39 ± 1.15 in postgraduate students. The median score in this area was 12 and about 41.4% of participants scored lower than this level.

The mean self-efficacy score was 45.47 ± 5.08 in general dentistry students and 46.56 ± 4.04 in postgraduate students. The median score in this area was 45 and about 7% of participants scored lower than this level.

Discussion

The results of the present study showed a significant correlation between different fields of communication skills and self-efficacy in general and postgraduate students. Effective interpersonal communication skills are essential for improving the quality of oral health services and patient satisfaction.[15] Maart and Mostert-Wentzel approved the importance of communication skills training among dental students and concluded that communication module should be developed and taught in the dental curriculum.[2]

Good interpersonal communication between physicians and patients leads to better treatment outcomes, better physician-patient relationships, more adherence to medical advice, greater patient-physician satisfaction, less physician burnout, and fewer medication errors and changes.[16]

In dentistry, communication skills refer to the ability of the dentist to communicate effectively with the patient, use the skills of active listening, collect and communicate information effectively, deal effectively with the patient's emotions, and show empathy, perception, moral awareness, and professionalism.[16]

All dental students require effective communication skills.[17] In the present study, no significant difference was found between men and women in the mean scores of communication skills and self-efficacy fields. Therefore, communication and self-efficacy skills do not seem to be gender-dependent, and acquiring these skills is essential for both sexes. Ayn et al. showed that attitudes towards communication skills learning were generally favorable and students appreciated the importance of communication skills for dental practice.[3] Similarly, in this study, a positive correlation was found between self-efficacy and all fields of communication skills, which implies that the higher the self-efficacy and self-confidence in students, the better the performance of communication skills. Besides, there was a correlation between introduction and reception field and job satisfaction, i.e., students with more job satisfaction were more enthusiastic to start working and were also more interested in doing better in beginning a relationship with

the patient and consequently better clinical outcomes. Nevertheless, there was a negative correlation between clinical checkup and faculty outside employment, i.e., professional practice and work experience outside the faculty contributed to the poor academic performance. Working outside the college before the end of the study and learning different communication skills and stabilizing them lead to providing patient care too hastily and spending less time on each patient.

Molina-Hernandez et al. suggested that dentists with more professional experience had better perceptions of job satisfaction and well-being at work. They found no significant difference between gender and job satisfaction which was consistent with the results of the present study.[18]

In the present study, the introduction and reception as well as medical history fields were correlated with the academic year. Furthermore, all communication fields were associated with the academic year, i.e., communication skills incline to weaken and may lapse over time as dental students proceed to higher degrees of dental education. Over time, they tend to miss their focus on all-inclusive patient care. Students make more effective contact with patients in the early years of clinic attendance. This may indicate that students are gradually moving away from the basic training given to them about communication skills. In the current dental curriculum, the communication skills unit is included in the third year of the academic course when students have not yet started clinical patient treatments. By distancing students from training, communication skills gradually faded into the distance. This highlights the need for retraining classes in the field of communication skills. Quinn et al. suggested that communication skills training should be implemented in practice and real life and should become part of professional development programs. They concluded that small changes in nonverbal communication

strategies (e.g., use of body language in the communication) would reduce dental anxiety levels.[19] Attari Moghadam et al. examined the role of teaching the physician-patient relationship in medical education. They concluded that training medical students on physician-patient relationship was highly effective for improving their awareness of communication skills.[20]

Mathew et al.[5] and Hottel and Hardigan[21] showed that dental students who received communication skills training had higher interpersonal communication skills and self-efficacy than untrained university students.

In the present study, no significant difference was found between general and postgraduate dental students in any field of communication skills and self-efficacy, except in the field of closure. Jabarifar et al. showed that postgraduate dental students had higher communication skills and professional ethics competencies in managing their patients than undergraduate dental students,[17] which was inconsistent with the results of the present study. This inconsistency could be due to the limited number of residents who participated in the study. Furthermore, the significant difference in the closure field between general and postgraduate students may be due to the broader view of postgraduate students on the patient treatment plan.

In this study, communication skills and self-efficacy were not correlated with GPA. In the dental education and dentistry system, most exams and scores, even the scores of the practical courses, are restricted to theoretical knowledge and memorization. The scores should be based on the student's assessment from the beginning of the patient's visit until the end of the performance and based on a checklist that examines all communication and clinical issues. Depending on the grades obtained by students in each of the general or postgraduate levels, communication skills training is recommended. Due to the correlation between self-efficacy and communication skills, enhancing students' self-efficacy can lead to more effective

communication with patients. levels, communication skills training is recommended. Due to the correlation between self-efficacy and communication skills, enhancing students' self-efficacy can lead to more effective communication with patients. This study had some limitations such as the limited sample size and self-report questionnaire that could be addressed in future research.

Conclusion

Although the majority of the interns in this The communication skills training can improve the general and postgraduate dentistry students' communication skills. Since self-efficacy and communication skills are inter-correlated, well-designed training courses addressing self-efficacy can improve dentist-patient communication. Further similar studies are required to be conducted in different dental schools of the country using the proposed checklists to observe this relationship in practical areas.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

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