

An investigation on the rate of communication skills among dental students from patients' point of view in Kerman dental school, Iran, in 2016

Raziyeh Shojaeipour MD¹, Azadeh Horri MD¹, Mahsa Sayadizadeh DDS²,
Emad Alamdari DDS³

Original Article

Abstract

BACKGROUND AND AIM: The patient's viewpoint on prevention, healthy diet, and disease recovery clearly relates to the relationship between the therapist and the patient. In this research, the importance of communication techniques between the patients and the dentists are investigated in order to improve the level of functional knowledge of patients for observing the oral hygiene and carrying out the activities in the field of dental diseases prevention and treatment.

METHODS: In this study, the patients who had received dental treatment were interviewed by a dental student at a general or specialized department in one of the clinical departments and then a questionnaire was completed for each patient. Later on for measuring the data, SPSS software was used. $P < 0.0500$ was considered statistically significant. The collected data were analyzed by t-test, chi-square test, and logistic regression.

RESULTS: In this cross-sectional study, 276 patients were studied along with a number of students who were enrolled. Of 276 patients, 46.4% were men and 53.6% were women. The dental students were 53.6% men and 46.4% women, 79.3% were general dentists and 20.7% were specialists. The average score for answering the aforementioned questionnaire was 18.30 ± 1.91 out of 20. This score had a significant relationship with students' age ($P = 0.0001$), but did not have a significant relationship with the gender of the students ($P = 0.2700$) or that of patients ($P = 0.5600$).

CONCLUSION: By increasing the age of the therapists, regarding the viewpoint of the patients, the communication skills were used more effectively, but the use of communication skills was not affected by the therapists' or patients' gender.

KEYWORDS: Communication; Students; Patients; Dentistry

Citation: Shojaeipour R, Horri A, Sayadizadeh M, Alamdari E. **An investigation on the rate of communication skills among dental students from patients' point of view in Kerman dental school, Iran, in 2016.** J Oral Health Oral Epidemiol 2018; 7(4): 168-73.

Education is a necessity to take care of our health. Using communication techniques by relevant professionals increases adaptation and admission of a person toward receiving the health care. Communication techniques are important in order to transfer or share the important points of how to prevent the oral and dental illness related to a patient. This shows that an ability to communicate effectively with patients and share dental protection information is crucial in order to improve the

effectiveness of treatment.¹ Thus, dentists' recommendation will promote the level of patients' interest and performance. Yet, diet therapy and recovery are clearly related to the way of communication between the dentists and the patients.² Using present skills and knowledge-based methods, dentists could considerably improve the patients' level of awareness relating to oral and dental health issues in the way that they will be able to understand this information well and consequently use them in the right way.^{3,4}

1- Assistant Professor, Oral and Dental Diseases Research Center AND Kerman Social Determinants on Oral Health Research Center AND Department of Pediatric Dentistry, School of Dentistry, Kerman University of Medical Sciences, Kerman, Iran

2- Resident, Oral and Dental Diseases Research Center AND Department of Pediatric Dentistry, School of Dentistry, Kerman University of Medical Sciences, Kerman, Iran

3- Student of Dentistry, School of Dentistry, Kerman University of Medical Sciences, Kerman, Iran

Correspondence to: Azadeh Horri MD

Email: azadehorri@gmail.com

The lack of coordination between literacy and health knowledge of patients' and dentists' informative requests has been demonstrated in many conducted studies. Many patients are shown to have difficulty in terms of obtaining process and understanding health information in the way that nearly 80 percent of them forgot about dentists' instructions as soon as they left the clinic. More interestingly, approximately 50 percent of their memories on what they had been told were incorrect.⁵ As in US National Assessment of Adult Literacy (NAAL), more than 36 percent of individuals above 16 years old had a very low level of health literacy.⁶ The necessary communication skills which have been recognized by present study include avoiding the expression of specialized terminology related to dentistry or medical sciences, using the common terms in the society, and taking notes to signs indicating that patients have understood the health instructions. Also it is believed that using simple and brief sentences, as well as listening and seeing visual cues provide short-term instructions and asking the patients with low level of literacy to repeat them among the others may increase the effectiveness of the communication.^{7,8}

Oral and dental health specialists tend to use traditional health education strategies such as consulting sessions and pamphlet distribution which are not always effective. In a conducted research for the case of periodontal diseases, constructing the reliable relationship with patients is crucial to prevent the diseases and treat them.⁹ The results of a review suggest that the psychology of behavior change is the key to oral health promotion and greater emphasis on teaching oral health professionals about health psychology would make oral health promotion more effective in the dental surgery.¹⁰ The present investigation provides additional support for validity of the Comprehensive Measure of Oral Health Knowledge (CMOHK).¹¹ A paper identifies points in the care-seeking process where

every level factors influence individuals' behavior.¹² Although oral and dental specialists have a critical role in terms of preventing the onset of dental and oral diseases, diagnosing a disease in early stages, training a patient in order to have an active role in preventing from disease, and maintaining oral and dental health, a necessary condition for the role is having an effective communication with the patients. Regarding the importance of assessment of communication skill techniques between the patients and the dentists, this study aimed to evaluate the communication skills in dental students of Kerman City, Iran (just those who have recently entered to clinic for treating the patients) using a questionnaire filled by their patients. Therefore, the main aim is to assess students' communication skills to improve patients' knowledge of oral and dental health care and prevent and treat these diseases. As a communication skills course is introduced, patients are an appropriate target group for practical evaluation of students and getting the feedback in terms of how much they have learned those communicational skills and use them in real circumstances. Thus, the results could be used by students studying in School of Dentistry, Kerman University of Medical Sciences; as it helps them to know their communicative skills strength and weakness points at the very beginning steps of their career.

Methods

This survey was conducted in School of Dentistry, Kerman University of Medical Sciences, at the second half of the academic year of 2016-2017. The sample included patients who received medical services from school's dental students. Students are due to provide fully practical services at the fourth year of their academic curriculum. At the time of conducting present research, the number of general students was 219 as well as 57 specialized students. Each student entered the research process once and the questionnaire (made by the research team) was filled by his patients. The total population was 276. The

questionnaire was provided to the patient at the end of the treatment session without a general or specialized students' notice. The questionnaire contained two parts: the first one included questions related to the application of students' communication skills which was answered by the patients. There were three response options for each question: "yes", "no", and "do not know".

The responses were scored from 1 (yes) indicating the satisfactory performance and effective communication between the students and the patients to 0 (no) and 0 (do not know) both indicating the patients' dissatisfaction and lack of effective communication.¹³ Score 20 indicated satisfaction of the patients. At the second part, students were asked to respond questions relating to demographic information (age of the students, and sex of the students and the patients). This measure was carried out at the end of the treatment by the dental students responsible for the project. To evaluate the validity of the index, the questionnaire was provided to 10 experts and 6 questions changed. To evaluate the reliability of the index, the questionnaire was randomly assigned to 20 subjects in a 3-week

interval. The reliability of the questionnaire was optimal using Cronbach's alpha (0.79). Data were analyzed using t-test, chi-square test, and analysis of variance (ANOVA) via SPSS software (version 21, IBM Corporation, Armonk, NY, USA). The percentage of the exclusion criteria on the items was low (0.3%). This study has been approved by Human Ethics Committee of the School of Dentistry, Kerman University of Medical Sciences (code: IR.KMU.REC.1395.102).

Results

In this study, 219 (79.3%) of general dentistry students and 57 (20.7%) of specialty students were investigated in order to evaluate the communication skills of the students which were 148 men (53.6%) and 128 women (46.4%) with a mean age of 24.70 ± 1.62 years. For each dental student, one patient answered the questions. Out of 276 patients, 148 were women (53.6%) and 128 were men (46.4%). The percentage of the exclusion criteria on the items was one person (0.3%). The frequency of the patients' responses to all 20 questions of questionnaire is shown in table 1. The frequency and average scores of students in each clinical department are shown in table 2.

Table 1. The frequency and percentage of "yes" and "no" responses to all 20 questions of questionnaire

Question	No	Yes
	[n (%)]	[n (%)]
1- Was the student's descriptions clear to you?	2 (0.7)	274 (99.3)
2- Did the student give you the necessary guidance if your treatment should be done in another department?	9 (3.3)	267 (96.7)
3- Was the student friendly and respectful to you?	1 (0.4)	275 (99.6)
4- Did the student check the steps of treatment with his master?	0 (0)	276 (100)
5- Did the student's talk and behavior assure you about treatment?	6 (2.2)	270 (97.8)
6- Did the student determine your next visit? (if needed)	20 (7.2)	256 (92.8)
7- Did the student answer your questions regarding the treatment process?	5 (1.8)	271 (98.2)
8- Did the student call to check your teeth after treatment?	112 (40.6)	164 (59.4)
9- Did the student speak slowly and step by step to you?	3 (1.1)	273 (98.9)
10- Did the student speak in plain language that was understandable to you?	4 (1.4)	272 (98.6)
11- Did the student use educational tools (brochure, dental models, film, and photo) to explain the treatment?	110 (39.9)	166 (60.1)
12- Did the student explain the possible treatment plans to you?	83 (30.1)	193 (69.9)
13- Did the student explain the conditions (duration, cost of treatment, and etc.) of each treatment?	70 (25.4)	206 (74.6)
14- Did the student provide the post-treatment necessary trainings to you?	6 (2.2)	270 (97.8)
15- Are you satisfied with the way of your dentist's dealing and behaving?	2 (0.7)	274 (99.3)
16- Have the dentist had enough time to hear your talk?	4 (1.4)	272 (98.6)
17- Was the student's behavior with you such that you could easily talk to him?	2 (0.7)	274 (99.3)
18- Was your demand considered in making decision for treatment and oral health care?	20 (7.2)	256 (92.8)
19- Did the student's advice help your oral health care?	8 (2.9)	268 (97.1)
20- Did the student's conversation change your oral health awareness?	6 (2.2)	270 (97.8)

Table 2. Frequency and percentage of patients based on different departments of dental school and the mean score of each department in the population studied

Department	n (%)	Mean score
Periodontology	47 (17.0)	18.1
Endodontics	67 (24.3)	18.1
Pediatric	36 (13.0)	18.1
Restorative	65 (23.6)	17.9
Prosthodontics	36 (13.0)	18.6
Orthodontics	7 (2.5)	20.0
Social dentistry	4 (1.4)	20.0
Surgery	9 (3.3)	20.0
Oral diseases	5 (1.8)	20.0
Total	276 (100)	18.3

The students' mean score was 18.30 ± 1.91 out of 20 which was considered to be a very good score as it indicated the effective communication between the students and the patients. The score was significantly correlated (the correlation coefficient was 0.54) with the age of the students ($P = 0.0001$). As students' age goes up, they seem to communicate more effectively with the patients. The mean score of "communication" quantitative variable obtained by students based on their "educational level" [i.e., dental public health (DPH) students and specialized students], "sex of the students", and "sex of the patients" is presented in figure 1.

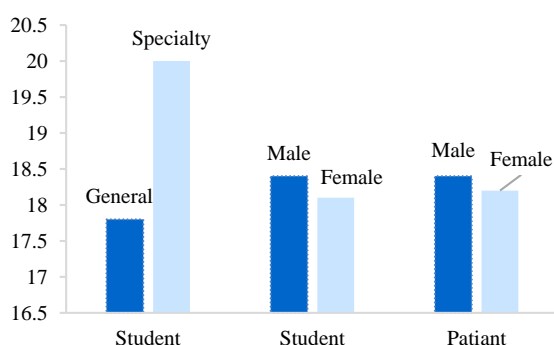


Figure 1. The student's mean score (out of 20) based on "educational level of students", "gender of students", and "gender of patients" in the population studied

There was statistically significant relationship between students' educational level and their score ($P = 0.0001$), as the patients' level of satisfaction has been higher

for specialized students than DPH students. Moreover, there was no statistically significant relationship between "sex of the students" ($P = 0.2700$) and "sex of the patients" ($P = 0.5600$) factors with the mean of scores.

The average score of all different sections was compared with those of other sections. The difference was not statistically significant ($P > 0.0500$) showing that patients' satisfaction level was equal for all sections. It was statistically significant just in the case of comparing surgical section with restorative section ($P = 0.0200$) as surgical students obtained higher score than restorative section counterparts. According to table 3, the age factor was the only statistically significant factor in examining students' effective behavior, i.e., the older the student, the higher the score by the patient.

Table 3. The effect of different variables on the dependent variable of "communication skills" according to the regression coefficient in the population studied

Variable	Coefficient β	P
Student's educational level	0.25	0.6000
Gender of student	0.90	0.6000
Gender of patient	0.15	0.6000
Age	0.60	0.0001
Departments	0.01	0.8000

Discussion

This study aimed to evaluate students' communication skills at School of Dentistry, Kerman University of Medical Sciences, via getting patients' perspective. It investigates the patients' receiving dental services from 9 different sections of school in both DPH level and specialized ones. The mean of students' obtained score in all sections which patients could receive dental services was 18.30, indicating that there has been an effective communication between the students and the patients. In other words, students have taken communication skills and techniques and applied them in real practical circumstances. This is especially important, as preventive dental cares, treatment regime, and disease

recoveries obviously depend on the dentists and patients interactions.²

As the results show, from patients' perspective, as students' age goes up, they use the communication skills more effectively. Therefore, specialized dental students have shown to have higher scores than the DPH students. This may indicate that they are practically more experienced comparing to the first group. Hamasaki et al. show the statistically significant relationship between dentists' inter-professional relationships and patients' satisfaction.¹⁴ Also, Chapman et al. argue that communication skills and sharing the decision-making process reduce patients' anxiety and complaints and consequently decrease malpractice claims. But dentists' emotional processing needs to be improved.¹⁵ Many studies have been conducted to assess communication skills in both micro and macro levels using countless variables playing the role in constructing an effective communication between the dentists and the patients. As a consensus between all those studies, any positive change, even if it is a little one, could lead to a better and more effective communication and as a result the patients eagerly pursue both prevention and treatment processes. In other words, it may lead to a deep and reliable relationship between them.

Among variables surveying in the present study, "age" seemed to be an effective factor. Meanwhile, an increasing rate of diagnostic, preventive, and total services was observed when moving from older practitioners to younger practitioners among Australian dentists suggesting a sustained shift towards these services into the future.¹⁶ Moreover, there was not a statistically significant relationship between "dentists' sex" and "patients' sex" factors with patient satisfaction. Findings show that using communication skills is a transgender issue as any female or male dentist could effectively learn and use them. On the other hand, from dentists' perspective, patients' sex

does not seem to be a determinant factor in creating pleasant sensation of a treatment and confidence among the patients. The important factor is the quality of right communication from the beginning to the end of treatment process and in some cases it could become a lifelong friendly relationship between the patient and the dentist. In fact, the effectiveness of mutual respect, using simple words, eye-contact, taking enough time to listen to the patients, noting patients' emotions, and so on is very high and does not seem to be influenced by gender of both the patients and the dentists. Weatherspoon et al.⁸ and Koo et al.¹³ found the same results. Koo et al. argued about the importance of patients' satisfaction and introduced communicational skills courses.¹³ Schwartzberg et al. considered dentists' update level in the field of communication skills as an important factor.¹⁷

Based on the results of this study, there was no statistically significant difference between the mean scores from different sections of the department. The restorative section got the lowest score and the highest one belonged to oral diseases, surgery, social dentistry, and orthodontics sections which all got 20. The difference was not significant and from patients' perspective, used communicational skills by both the students of DPH and specialized levels were satisfactory. This little difference could be justified as the restorative section is the section in which students confront with the patients and they are still learning. Thus, in this section, learning stress and implementation of treatment process do not allow students to use and also focus on communicational skills.

Conclusion

From patients' perspective, the level of students' communicational skills is influenced by their age. The older they get, the higher the effectiveness of their relationship with the patients are. The performance of specialized dentist assistants

is better than their DPH counterparts. Finally, using communicational skills is not influenced by the sex of both the dentists and the patients. Some of the limitations of the present study were that there was not any patient in some clinical sections and some of the patients were not able to read the questionnaire since they were illiterate and

needed more time.

Conflict of Interests

Authors have no conflict of interest.

Acknowledgments

The authors wish to thank dental students for their assistance in all the procedures.

References

1. Horowitz AM, Clovis JC, Wang MQ, Kleinman DV. Use of recommended communication techniques by Maryland dental hygienists. *J Dent Hyg* 2013; 87(4): 212-23.
2. Andrus MR, Roth MT. Health literacy: A review. *Pharmacotherapy* 2002; 22(3): 282-302.
3. Hall JA, Roter DL, Katz NR. Meta-analysis of correlates of provider behavior in medical encounters. *Med Care* 1988; 26(7): 657-75.
4. Wolf MS, Wilson EA, Rapp DN, Waite KR, Bocchini MV, Davis TC, et al. Literacy and learning in health care. *Pediatrics* 2009; 124(Suppl 3): S275-S281.
5. Sanders LM, Shaw JS, Guez G, Baur C, Rudd R. Health literacy and child health promotion: Implications for research, clinical care, and public policy. *Pediatrics* 2009; 124(Suppl 3): S306-S314.
6. Heinrich C. Health literacy: The sixth vital sign. *J Am Acad Nurse Pract* 2012; 24(4): 218-23.
7. Horowitz AM, Kleinman DV. Oral health literacy: The new imperative to better oral health. *Dent Clin North Am* 2008; 52(2): 333-44, vi.
8. Weatherspoon DJ, Horowitz AM, Kleinman DV, Wang MQ. The use of recommended communication techniques by Maryland family physicians and pediatricians. *PLoS One* 2015; 10(4): e0119855.
9. Stenman J, Wennstrom JL, Abrahamsson KH. Dental hygienists' views on communicative factors and interpersonal processes in prevention and treatment of periodontal disease. *Int J Dent Hyg* 2010; 8(3): 213-8.
10. Kay E, Vascott D, Hocking A, Nield H, Dorr C, Barrett H. A review of approaches for dental practice teams for promoting oral health. *Community Dent Oral Epidemiol* 2016; 44(4): 313-30.
11. Macek MD, Atchison KA, Chen H, Wells W, Haynes D, Parker RM, et al. Oral health conceptual knowledge and its relationships with oral health outcomes: Findings from a Multi-site Health Literacy Study. *Community Dent Oral Epidemiol* 2017; 45(4): 323-9.
12. Harris RV, Pennington A, Whitehead M. Preventive dental visiting: A critical interpretive synthesis of theory explaining how inequalities arise. *Community Dent Oral Epidemiol* 2017; 45(2): 120-34.
13. Koo LW, Horowitz AM, Radice SD, Wang MQ, Kleinman DV. Nurse Practitioners' Use of Communication Techniques: Results of a Maryland Oral Health Literacy Survey. *PLoS One* 2016; 11(1): e0146545.
14. Hamasaki T, Kato H, Kumagai T, Hagihara A. Association between dentist-dental hygienist communication and dental treatment outcomes. *Health Commun* 2017; 32(3): 288-97.
15. Chapman HR, Chipchase SY, Bretherton R. Understanding emotionally relevant situations in primary dental practice. 3. Emerging narratives. *Br Dent J* 2015; 219(10): 491-6.
16. Ju X, Spencer AJ, Brennan DS. Dentist age, period and cohort effects on provision of dental services in Australia: 1983-84 to 2009-10. *Community Dent Oral Epidemiol* 2017; 45(3): 242-50.
17. Schwartzberg JG, Cowett A, VanGeest J, Wolf MS. Communication techniques for patients with low health literacy: A survey of physicians, nurses, and pharmacists. *Am J Health Behav* 2007; 31(Suppl 1): S96-104.