

Original Article

Dental Students' Attitudes toward Learning Communication Skills: A Cross-Sectional Study

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Submitted: 18-2-2022

Accepted: 16-7-2022

Abstract:

Objective: This study aimed to evaluate the attitudes toward learning communication skills among dental students as an indication for teaching the effectiveness of communication skills training for the first time.

Subjects and Methods: A cross-sectional study was conducted among 244 dental students in the 4th and 5th year at the Faculty of Dentistry in Cairo University in Egypt using the validated Dental Communication Skills Attitude Scale. The scale is divided into positive attitude scale (PAS) and negative attitude scores (NAS) and mean scores were calculated for each scale as well as for the individual questions. A comparison of the scores was made for gender, academic year, and last year's performance.

Results: The mean age of participants was 22 ± 1.1 years with a range from 20-25 years. 70% of the participants were females and only 30% were males. 45% of the participants were fourth-year students and 55% were fifth-year students. Mean PAS and NAS were 51.43 ± 9.55 and 32.52 ± 5.8 respectively. Statistical analysis by demographic variables suggested that there were no differences based on gender or study year in attitudes toward learning communication skills. However, there was a difference based on the last academic year's grades.

Conclusion: The results of this study indicate that dental students have favorable attitudes towards learning communication skills and this positive attitude remains high until the fifth grade. It is also concluded that the students with high grades may have a lower positive attitude toward learning communication skills.

Keywords: Communication skills; Dental education; CSAS; DCSAS; Dental students

Introduction:

Historically, healthcare was dominated by the biomedical model. This model placed more value on technical proficiency than on communication skills. However, the current evidence-based medicine reinforces the need for a communication skills curriculum (Brown, 2008). Communication skills teaching aims to develop effective communication not only with the patients, but also with the family of the patients, colleagues, and other health care professionals to provide better inter-personal

relationships and to enhance information sharing to establish a diagnosis and treatment plan (Stewart et al., 2000). In 2008, the American Dental Education Association (ADEA) House of Delegates approved communication skills as one of the domains of competencies for new general dentists (ADEA, 2012).

A very few dental studies evaluated the dental students' attitudes toward learning communication skills. A study was done at two dental school classes in New Jersey using the Arizona Clinical

Interviewing Rating Scale (ACIR) and it reported that dental students have significant improvement in communication skills after two communication skills training sessions (Broder & Janal, 2006). Later, Laurence et al. (Laurence et al., 2012) at Howard University in Washington, D.C. in the United States adapted a questionnaire from the Communication Skills Attitude Scale (CSAS) originally developed by Rees et al., 2002 for medical students (Rees et al., 2002), so it can suit dental students. For example, words as medical, medicine, and physician were changed to dental, dentistry, and dentist respectively and that adapted CSAS was referred to as DCSAS (Laurence et al., 2012). The CSAS and DCSAS questionnaires were divided into positively-worded questions, so the high score was interpreted as a good attitude and those questions were 1, 4, 5, 7, 9, 10,12,14,16,18, 21, 23, and 25 and negatively-worded questions, so high score was interpreted as negative attitude and those questions were 2, 3, 6, 8, 11, 13, 15, 17, 19, 20, 22, 24, and 26 (Laurence et al., 2012).

Widespread acknowledgment of the importance of teaching communication skills has contributed to the integration of communication skills into many dental school curricula in Egypt. Teaching communication skills in the Faculty of Dentistry at Cairo University started officially as a theoretical and practical topic for the fourth year. In the Oral Medicine subject, dental students are introduced to clinical competence in communication skills through lectures and practical sessions about the doctor-patient relationship. Practical sessions are based on role-playing among peers. In total, one hour of the course is dedicated to the theoretical lecture and two hours to the practical sessions. However, a communication skills assessment is done every single practical session by the supervisor during the process of patient history gathering by the students.

Up to our knowledge, there is no quantitative study to outline the attitude of dental students in Egypt toward that relatively new curriculum. So, the objectives of the current study were to evaluate students' perceptions toward learning

communication skills immediately after the course and to compare those results after a year of teaching the course. Also, to investigate if these perceptions were affected by the gender, the academic year, or the students' grades of the previous year.

Subjects and Methods:

The data was collected between January 2019 and June 2019. The ethical approval of the Research Ethics Committee was obtained with an approval number 18-12-32. Informed consents were obtained from the study participants. The data reported was based on questionnaires collected from students at the Faculty of Dentistry, Cairo University, in Egypt. The author used a twenty-six-item questionnaire adapted from a questionnaire for dental students by Laurence et al., 2012(Laurence et al., 2012). The total score for each scale was 13 questions multiplied by five points which yielded 65 points. The questionnaire also included demographic data as age, gender, academic year, and last year grade. The questionnaires were anonymous.

A pilot study was performed using a sample of 20 students to assess the clarity of the questionnaire, the intra-rater reliability, the interaction of the students, and the interpretation of the language. Most students of the pilot study did not interpret questions number eight and eleven, so the wording was changed without affecting the purpose of the question. Question number eight was "I can't be bothered to turn up to sessions on communication skills" and it was changed to "I don't think classes on communication skills are worth my time." Question number eleven was "Communication skills teaching states the obvious and then complicates it" and it was changed into "Communication skills classes make the simple thing looks complicated."

The questionnaire was distributed to the students in the fourth and fifth academic years during their regular practical sessions time. Participation was voluntary and no incentive was offered to the participants. Participants included different clinical sections to avoid selection bias that may be caused by selecting students taught by the same faculty

members. Participants were asked to rate how strongly they agreed or disagreed with the statements using a five-point Likert scale ranging from strongly disagree to strongly agree, with the responses scored from one to five respectively. For the reporting of the 26 item means scores, positively-worded questions were named positive attitude scale (PAS) and a higher score indicated a more positive approach and interest toward learning communication skills and the negatively-worded questions were named negative attitude scale (NAS) and a lower score indicated a more positive attitude toward learning communication skills (Rees et al., 2002). The mean value of the answers for each item was calculated and the maximum score was 5 which is the maximum of the Likert scale. The total PAS and NAS were also calculated with a maximum score of 65 for each scale (13 questions multiplied by 5). The separate questionnaire items, as well as the PAS and NAS, were also compared according to independent variables (gender, academic year, and last year grade).

For calculation of the sample size, we used Krejcie and Morgan table (Krejcie & Morgan, 2017). At the marginal error of 5% and confidence interval of 95%, the sample size was calculated as 244 participants. Data were statistically described in terms of mean \pm standard deviation (\pm SD), or frequencies (number of responses) and percentages whenever appropriate. Because the samples were large enough, comparing gender and academic year groups was done using a Student *t-test* for independent variables while comparing last year's academic grade was done using one-way analysis of variance (ANOVA) test with posthoc multiple 2-group comparisons. Two-sided *p* values < 0.05 were considered statistically significant. All statistical calculations were done using the computer program IBM SPSS (Statistical Package for the Social Science; IBM Corp, Armonk, NY, USA) release 22 for Microsoft Windows.

Results:

244 students completed the questionnaire. The mean age of the participants was 22 ± 1.1 years with a range from 20-25 years. Table 1 demonstrates the demographic data. 70% of the participants were females and 30% were males. 45% of the participants were in the fourth academic year and 55% were in the fifth academic year. 35.1% of the participants recorded good grades, 48.3% recorded very good grades and 16.1% reported excellent grades for the preceding academic year.

The PAS of total students was 51.43 ± 9.55 and the NAS of total students was 32.5 ± 5.8 . The average score for question 1 was 4.61. Positive and negative scales showed no statistical significance between males and females with a *p-value* of 0.4, 0.07 respectively. For the academic year, both scales were also not statistically significant with a *p-value* of 0.16 and 0.45 respectively. For the preceding academic year grades, the positive scale was statistically significant between the grades with a *P-value* of 0.044 as shown in table 2a and figure 1. Table 2b demonstrates the post-hoc analysis for the academic year grade.

Regarding the separate items, there was a statistically significant difference of three items between last year's grade groups. The very good grader scored higher (2.97) than their good grader counterparts (2.44) on question 15 "I find it difficult to trust information about communication skills given to me" with a *p-value* of 0.017 and they scored lower (3.68) than the good graders (4.04) in question 23 "Learning communication skills is applicable to learning dentistry" with a *p-value* of 0.043. There was also a statistically significant response difference in question 17 with a *p-value* of 0.021 "*Communication skills teaching would have a better image if it sounded more like a science subject*" where excellent graders scored 3.78 and the good graders scored 3.04 as shown in table 3.

Table 1: Demographic characteristics of the participants

Age (years)	
22 ± 1.1	
Gender	
Male	30%
Female	70%
Academic year	
Fourth-year	45%
Fifth-year	55%
Last year grade	
Good	35.1%
Very good	48.3%
Excellent	16.1%

Table 2a: Mean scores for positive attitude scale (PAS) and negative attitude scale (NAS) of the participants toward learning communication skills

	PAS	P-value	NAS	P-value
Total	51.43 ± 9.55		32.52 ± 5.8	
Male	50.63 ± 10.7	0.4	33.57 ± 5.8	0.07
Female	51.77 ± 9		32.06 ± 5.8	
4th year	52.9 ± 7.3	0.16	32.7 ± 5.7	0.45
5th year	51 ± 10.6		32.3 ± 6	
Good	53.7 ± 10.6		32.16 ± 5.6	
Very good	51.45 ± 7	0.044*	32.8 ± 5	0.6
Excellent	48.8 ± 13		32.8 ± 7.5	

* Variables are significant when *P*-values less than .05

Table 2b: A post-hoc analysis for the academic grade

	Last year grade	Last year grade	Mean difference	P-value
PAS	Good	Very Good	2.238	0.382
		Excellent	4.895(*)	0.043*
	Very Good	Good	-2.238	0.382
		Excellent	2.657	0.488
	Excellent	Good	-4.895(*)	0.043*
		Very Good	-2.657	0.488
NAS	Good	Very Good	-0.642	1.000
		Excellent	0.397	1.000
	Very Good	Good	0.642	1.000
		Excellent	1.039	1.000
	Excellent	Good	-0.397	1.000
		Very .Good	-1.039	1.000

*Variables are significant when *P*-values less than .05

Table 3: Scale item mean values by demographic independent variables

Questions	Male	Female	4 th year	5 th year	Good	V. good	Excellent
1. In order to be a good dentist I must have good communication skills	4.41	4.7	4.74	4.59	4.72	4.58	4.64
<i>2. I can't see the point in learning communication skills</i>	1.87	1.58	1.63	1.64	1.58	1.6	1.84
<i>3. Nobody is going to fail their dental degree for having poor communication skills</i>	2.75	2.79	2.96	2.72	2.9	2.7	2.88
4. Developing my communication skills is just as important as developing my knowledge of dentistry	3.96	4.36	4.29	4.31	4.24	4.16	3.84
5. Learning communication skills has helped or will help me respect patients	4.19	4.36	4.45	4.31	4.36	4.37	4.18
<i>6. I haven't got time to learn communication skills</i>	2.45	2.31	2.23	2.3	2.23	2.22	2.48
7. Learning communication skills is interesting	3.6	3.72	3.74	3.68	3.85	3.65	3.71
<i>8. I don't think classes on communication skills are worth my time</i>	2.79	2.62	2.7	2.61	2.58	2.69	2.7
9. Learning communication skills has helped or will help facilitate my team-working skills	4.09	4.15	4.13	4.14	4.23	4.11	4.13
10. Learning communication skills has improved my ability to communicate with patients	4.04	4.04	4.11	4.05	4.1	4.03	4.03
<i>11. Communication skills classes make the simple thing looks complicated</i>	2.56	2.69	2.86	2.47	2.65	2.68	2.52
12. Learning communication skills is fun^[SEP]	3.37	3.42	3.54	3.31	3.51	3.42	3.38
<i>13. Learning communication skills is too easy</i>	3.38	3.24	3.29	3.34	3.42	3.21	3.56
14. Learning communication skills has helped or will help me respect my colleagues	3.78	4.01	4	3.9	4.08	3.93	3.97
<i>15. I find it difficult to trust information about communication skills given to me by non-clinical lecturers</i>	3.02	2.67	2.83	2.76	2.44	2.97	2.74
16. Learning communication skills has helped or will help me recognize patients' rights regarding confidentiality and informed consent	4.12	4.12	4.08	4.13	4.11	4.21	4.09
<i>17. Communication skills teaching would have a better image if it sounded more like a science subject</i>	3.75	3.19	3.26	3.61	3.04	3.45	3.78
18. When applying for dentistry, I thought it was a really good idea to learn communication skills	3.69	3.77	3.98	3.69	3.84	3.69	4.06
<i>19. I don't need good communication skills to be a dentist</i>	1.74	1.6	1.52	1.67	1.55	1.68	1.77
<i>20. I find it hard to admit to having some problems with my communication skills</i>	2.56	2.59	2.67	2.56	2.67	2.57	2.42
21. I think it's really useful learning communication skills on the dental degree	4.71	3.97	4.12	4.35	4.75	3.89	4.07
<i>22. My ability to pass exams will get me through dental school rather than my ability to communicate</i>	3.33	3.05	3.01	3.21	3.11	3.16	3.13
23. Learning communication skills is applicable to learning dentistry	3.7	3.83	3.81	3.84	4.04	3.68	3.84
<i>24. I find it difficult to take communication skills learning seriously</i>	2.58	2.73	2.72	2.6	2.71	2.76	2.35
25. Learning communication skills is important because my ability to communicate is a lifelong skill	4.04	4.32	4.36	4.1	4.31	4.19	4.39
<i>26. Communication skills learning should be left to psychology students not dental students</i>	1.87	1.79	1.73	1.83	1.85	1.75	1.84

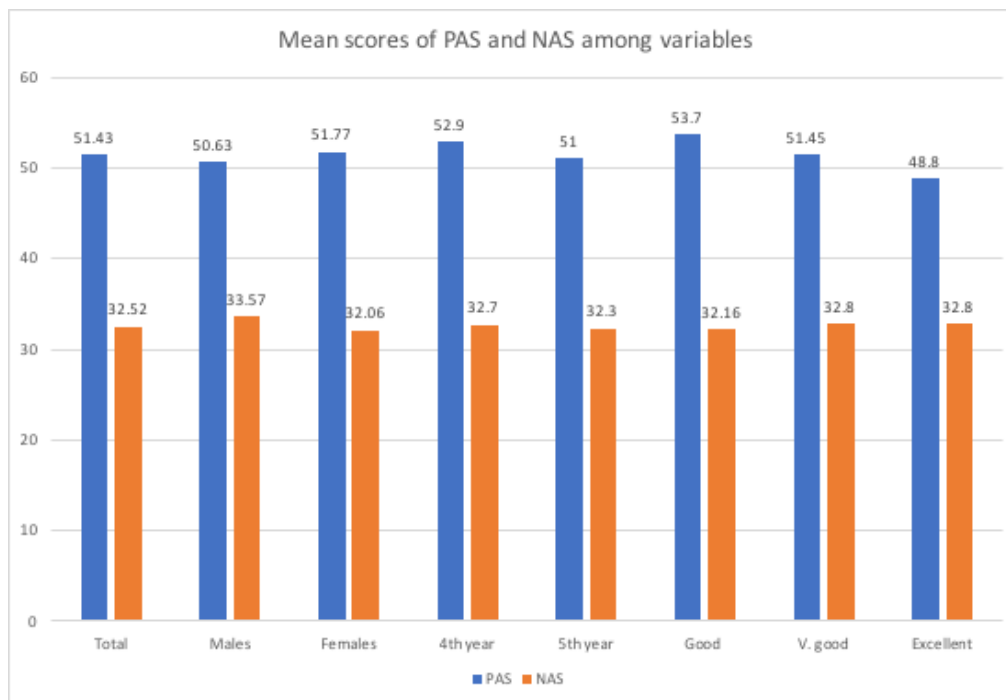


Fig 1: Distribution of mean scores of PAS and NAS among different variables.

Discussion:

Good dentist-patient communication is of a paramount importance and has many impacts on the treatment outcomes including better oral health outcomes, higher patient compliance, higher patient satisfaction, and a decrease in malpractice risk (Wong & Lee, 2006). Although dental education has started to include teaching communication skills between dentist and patient, learning communication skills for dental students as an official topic is relatively a novel subject in Egypt so, the current research studied the students' attitude toward learning communication skills in general and also in relative to variables such as gender, academic year, and academic grade.

The CSAS is the most commonly used tool to assess medical students' attitudes regarding communication skills learning and it has been validated in many studies (Ahn et al., 2009; Anvik et al., 2007). The CSAS has two subscales: Positive Attitude Scale (PAS) and Negative Attitude Scale

(NAS). Laurence et al. later developed the adapted DCSAS to fit the dental students. The current study used the adapted version of the DCSAS scale because of its high validity and internal consistency. However, Unlike Laurence et al, the author did not reverse the score of the negative before the sum up, rather the author separately analyzed PAS and NAS questions similar to Richa et al. for easier interpretation. A higher score for PAS means a high positive attitude and for NAS means a high negative attitude. Also, because the scale was validated based on students with a first language as English, a pilot study was conducted to evaluate the clarity of the questions.

The current study showed that the mean score for the PAS was 51.88 ± 9.28 (out of 65) and the mean score for the NAS was 32.61 ± 5.95 (out of 65). This is very similar to Richa et al., 2016 (Richa et al., 2016) where they reported scores of 50.44 ± 5.83 and 29.72 ± 4.32 , respectively. These results are also in accordance with a study conducted in Alexandria in

Egypt evaluating the dental interns' attitudes toward learning communication skills where the mean PAS score was 52/65 (Atteya et al., 2017). For individual questions, an average score of more than 2.5 out of 5 on the Likert scale indicated a trend whether the students were against or with the question. For example, students perceived learning communications skills in dentistry as important (mean score for question one was 4.6/5) and interesting (mean score for question seven was 3.69/5). In general, it was obvious in the current study that most students hold positive attitudes towards learning communication skills where they recognized how essential and also interesting this course was. That was similar to findings of a previous study (Loureiro et al., 2011). In their study, 61% of the students perceived communications skills in Medicine as Important.

In the current study, the mean scores of PAS and NAS and for the individual items showed no statistically significant difference between the fourth and fifth-year dental students. This result suggests that there was a tendency for students to value the importance of communication skills while they move through the dental program even though the course of the communication skills is taught during the fourth year only and not the fifth year. This may be due to the consistent practice of communication skills during the practical sessions during both the fourth and fifth years. This observation is in contrary to the finding of Laurence et al., 2012 (Laurence et al., 2012) who found that the mean scores for what they called the importance items showed a statistically significant downward trend from first to the third year which followed by a slight upward in this measure in the fourth year ($p=0.007$).

In the current study, there was no statistically significant difference in the scores between males and females. This is in accordance with the results of a study conducted in Nepal on a sample of medical students which found no statistically significant relationship between gender and positive attitudes

towards learning communication skills (Shankar et al., 2013). However, this was in contrast to the earlier study conducted by (Atteya et al., 2017) where they found that female interns had higher PAS scores than male interns. Roter and Hall (Roter & Hall, 1998) explained the effect of gender on the physician-to-patient relationship as that may be because the art of communication originates more naturally from a female, so she may be more likely to appreciate the importance of physician to patient communication.

In the current study, the academic grade was found to have a significant relationship with PAS scores. As grades increased, PAS scores decreased suggesting that higher graders had less positive attitudes towards communication skills learning. This was supported by the study of (Richa et al., 2016). Our difference in PAS score was supported by the statistical differences of questions number 15 "I find it difficult to trust information about communication skills given to me" with a p -value of 0.017 and in question 23 "Learning communication skills is applicable to learning dentistry" with a p -value of 0.043. There was also a statistically significant response difference in question 17 with a p -value of 0.021 "Communication skills teaching would have a better image if it sounded more like a science subject". A possible explanation for this finding is that students with high grades may pay more attention to subjects related to factual knowledge. Several researchers argue that the disease-oriented medical curricula which marginalize teaching communication skills discourage the adoption of appropriate attitudes by the students (Howe, 2002). Moreover, communication skills curricula need to be patient-oriented. For years, the communication skills model has focused on the physician's role. Teaching a patient-based model instead of a physician-based model plays a paramount role in increasing the patients' satisfaction (Dancet et al., 2012).

The limitation to this research was that it was based on students' attitudes at one academic dental

institution and these attitudes may not be exactly the same as those from other dental schools in Egypt.

Conclusion:

The results of this study indicate that dental students have favorable attitudes towards learning communication skills and this positive attitude remained high until the fifth grade which may lead to increased patient satisfaction. The current study also concluded that the students with high grades may have a lower positive attitude toward learning communication skills.

Recommendations and further research:

1. To commence teaching communication skills in earlier academic years using role-play models
2. To conduct additional similar research with students from other dental schools in Egypt to compare our results with those results from other dental institutions.
3. To conduct qualitative studies such as focus groups to examine the results we found that the students who score higher usually perceive learning communication skills as less important.

Conflict of interest:

The authors declare no conflict of interest.

Funding:

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sector.

Acknowledgment:

The author would like to thank Dr. Basma Elsaadany for helping with questionnaires distribution.

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