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A Cross-Sectional Survey Study on the Use of Communication Methods in the Dentist-Geriatric Patient Relationship

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ABSTRACT

Objectives: The population has been aging more rapidly than in the past, and it has been reported that the number of people over the age of 60 exceeds the number of children under the age of 5. This demographic change has forced countries to plan their health systems with the aging population in mind. In this study, we aimed to see and evaluate the attitudes of dentists and trainee dentists towards communication with their elderly patients during their examination and treatment.

Materials and methods: We applied a 25-item questionnaire on dentist-geriatric patient communication to 241 participants, including the 4th and 5th-year students, residents, and faculty members. Sixteen items, which of the first 7 are "basic", include questions that examine the methods recommended by the American Medical Association in physician-patient communication and whether they find these methods effective. The data we obtained from the survey results were analyzed with appropriate statistical methods.

Results and Discussion: Dentists routinely used an average of 4.6 of the 16 methods and 2.5 of the seven basic methods. While the most frequently used methods were “speaking slowly” and "using a simple language", the least was "using videos". Health literacy awareness and outcome expectancy were associated with the number of methods used.

Conclusions: The number of routine use of the methods is quite low among dentists and trainee dentists. It has been observed that communication methods that would be effective in relationships with geriatric patients with low health literacy skills are not routinely used. It has been concluded that the communication methods that can be used effectively for communication with geriatric patients should be embedded into the dental curriculum.

Keywords: Elderly; communication; delivery of health care; health literacy; dentistry for aged; health services for the aged.

Diş Hekimi-Geriatrik Hasta İlişkisinde İletişim Yöntemlerinin Kullanımı Üzerine Kesitsel Bir Anket Çalışması

Süreç

Geliş: 10/05/2022
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ÖZ

Amaç: Dünya Sağlık Örgütü (DSÖ) verilerine göre günümüzde nüfusun yaşlanması eskiye nazaran çok daha hızlı bir hal almıştır ve 60 yaş üstü insan sayısının 5 yaş altındaki çocuk sayısını geçtiği rapor edilmiştir. Bu demografik değişim, ülkelere, sağlık sistemlerini yaşlanan nüfusu düşünerek planlamaları zorunluluğunu getirmiştir. Yaptığımız bu kesitsel çalışmada diş hekimleri ve stajyer diş hekimlerinin muayene ve tedavileri sırasında, “yaşlı” olarak nitelendirdikleri hastalarla olan iletişime yönelik tutumlarını ve “yaşlılık” ile ilgili tutumlarını görmeyi ve değerlendirmeyi amaçladık.

Materyal ve Metod: Bu çalışmada hekim-geriatrik hasta iletişimi üzerine, fakültemiz 4. sınıf ve 5. sınıf öğrencileri, araştırma görevlileri ve öğretim üyeleri olmak üzere 168 stajyer diş hekimi ve 73 diş hekimine 25 ögelik bir anket uygulaması yapılmıştır. Ankette yer alan 16 ögelik kısım, ilk 7 tanesi “temel” olmak üzere, Amerikan Tıp Derneği’nin hasta-hekim iletişiminde önerdiği yöntemleri ve bu yöntemleri etkili bulup bulmadıklarını irdeleyen soruları içermektedir. Anket sonuçlarından elde ettiğimiz veriler uygun istatistiksel yöntemlerle analiz edilmiştir.

Bulgular ve Tartışma: Temel 7 tekniğin “rutin” kullanım ortalaması 2.57, 16 yöntemin rutin kullanım ortalaması ise 4.63 bulunmuştur. En sık kullanılan “yavaş konuşmak” ve “basit bir dil kullanmak” yöntemleri iken, en az kullanılan “video kullanmak” yöntemi olmuştur. Sağlık okuryazarlığı farkındalığı ve sonuç beklentisi ile tekniklerin rutin kullanım sayısı arasında istatistiksel anlamlı ilişki bulunmuştur.

Sonuçlar: Tekniklerin rutin kullanım sayısı diş hekimleri ve stajyer diş hekimleri arasında oldukça düşüktür. Sağlık okuryazarlığının düşük olduğu geriatrik hastalarla olan ilişkilerde uygulanması etkili olacak iletişim yöntemlerinin rutin kullanımda yer almadığı gözlenmiştir. Diş hekimliği eğitiminde, geriatrik hastalarla iletişimde etkili şekilde kullanılabilecek yöntemler üzerinde daha fazla durulması gerektiği sonucuna varılmıştır.

Anahtar Kelimeler: Yaşlı; İletişim; Sağlık Hizmeti Sunumu; Sağlık Okuryazarlığı; Yaşlılar İçin Diş Hekimliği; Yaşlılar İçin Sağlık Hizmetleri.

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Introduction

Health-related information and dentists' recommendations can often be confusing for patients and cause them to have difficulty in understanding the nature of their conditions and implementing the instructions correctly. Effective physician-patient communication skills are as important to medical care as clinical expertise.[1] At this point, health communication becomes meaningful and can have a significant impact. Health communication is based on two-way information transfer using a common signal and behavioral system through various communication pathways and messages and creates mutual understanding and sympathy among the people communicating.[2] An effective dentist-patient communication can lead to a reduction in anxiety, and increase patients' satisfaction and adherence.[3,4] It becomes more and more important to communicate clearly and simply when communicating about health-related issues, especially considering that the world population is aging steadily and elderly patients may have difficulty in understanding dental issues.

Although it is not based on any medical or biological evidence, old age is generally defined as 65 and over chronological age in the world.[5] According to the data WHO provides[6], the population has been aging more rapidly than in the past, and it has been reported that the number of people over the age of 60 exceeds the number of children under the age of 5. This demographic change necessitates countries to plan their health systems with the aging population in mind. Health is the one area where communication is perhaps the most necessary and can have a significant impact. The aging population means that most patients who approach the hospitals for treatment are elderly people, and the importance given to the communication with patients needs to be increased to reduce hospital visits and ensure that patients understand what is being told and implement it accordingly. The ability of the elderly individual to interpret what he hears can have an impact on the shaping of health behavior, as well as it is effective in the perception that the delivery of health care is seen as adequate. The main purpose of health communication practices is to optimize the individual's health behavior in the desired direction, as well as develop and improve both individual and social health.[7]

In the reliability and validity study of Turkey's health literacy scales (TSOY-32)[8] conducted under the fosterage of the Ministry of Health in 2016, it has been observed that when the literacy level by age groups is examined, the literacy level of approximately four out of five elderly people in the 65-year-old and above group is insufficient. Therefore, more efforts should be made to be comprehensible for the elderly about treatments and post-treatment recommendations.

To the best of our knowledge, this study has not been conducted in Turkey before. In this cross-sectional study, we wanted to see whether dentists and trainee dentists use advanced communication methods by considering their attitudes towards "aging" and their patients' age in communication. We aimed to raise awareness against the aging population of the country, to provide data, and to be beneficial to our faculty in terms of practice.

Materials and Methods

This cross-sectional study was reviewed and approved by the Sivas Cumhuriyet University Non-invasive Clinical Research Ethics Committee in Sivas, Turkey, with the decision date 13.01.2022 and under the decision number 2022-01/26, and the research was conducted in full accordance with the Declaration of Helsinki. Patients were informed about the study and they gave their written consent to participate.

To prevent the risk of bias, a face-to-face survey was applied to the 4th and 5th-year students, residents, and faculty members. Residents and faculty members in the Orthodontics and Pedodontics Departments were excluded due to the nature of their patients.

Questionnaire

In this study, we used an adaptation of a survey Rozier *et al.* conducted[9] on the dentists residing in the USA and supported the questionnaire with our questions, as we reckoned were appropriate for our society. The story of the questionnaire that Rozier *et al.* used is as follows: The National Advisory Committee on Health Literacy in Dentistry (NACHLD) created an 86-question, individual and answer-mandated questionnaire. This questionnaire also included communication methods recommended by the American Medical Association (AMA).[10] The important parts of this questionnaire were piloted to 188 participants at the 2007 meeting of the American Dental Association. The results of this questionnaire were evaluated in the NACHLD study group, and the necessary sections were revised and finalized in the Rozier *et al.* study.[9] After that, these 18 communication methods were also included in other survey studies with various revisions.[11–13] With this aspect and not being subject to scoring or scaling, the survey questions that we received support from are not an index, so there was no need for a "reliability and validity study". Among the 18 communication methods, "Asking other office workers to follow up on the patient for post-treatment instructions" and "Using a translator when necessary" were not included and examined in the questionnaire because of the nature of our working conditions, only one secretary works permanently, and the patients who apply are Turkish speaking people. The translation of the communication methods from the original language into Turkish was performed by KG, who is C1 level in English, and was translated back into English by a professional translator and was compared with the original. The results were similar to the original, except for one or two words with synonyms, and the use of the first translation was deemed appropriate.

Our survey consists of 25 questions; 3 demographic questions, a 6-item section, and a section where we

question 16 communication methods and whether they are considered effective. Demographic questions consist of age, gender, and title. The 6-item section consists of the number of elderly patients communicated weekly, the definition of elderly patients, awareness of health literacy, whether participants received communication training, their thoughts on whether addressing elderly patients in an informal language as uncles and aunts made the patients more comfortable and finally, whether the lack of using communication methods while communicating with elderly was attributed to the 6 barriers presented; lack of time, awkwardness, cannot simplify any further, patient's language not efficient enough, and thinking that the patient will not comply. The frequency of use of communication methods was questioned on the Likert scale: always, usually, sometimes, rarely, never. Accordingly, it was scored from always (5 points) to never (1 point).

16 communication methods were grouped into 5 domains as follows in the above-mentioned study9, and we continued the same grouping: Interpersonal communication, teach-back method, patient-friendly materials and aids, assistance, and patient-friendly practice. The first two categories are "Basic Methods".

To evaluate the appropriateness of the survey content, two people representing each title evaluated the draft version of the survey. In this evaluation, the comprehensibility of the questions and expectations in responses were discussed. Only one-word correction (term into "technical term") was made on communication methods, no other corrections were required on the remaining sections.

Data collection

Sample size was calculated by power analysis and we aimed to reach the entire sample universe. 95 4th-year interns, 73 5th-year interns, 57 residents (excluding the residents in the orthodontics and pedodontics departments), and 16 faculty members (excluding the members in the orthodontics and pedodontics departments) participated in the study. The demographic data of the participants are shown in Table 1.

Analysis variables

To the question, "During a typical work week, how often do you use the following communication methods when communicating with elderly patients?", we expected answers on a five-point Likert scale; always (5), usually (4), sometimes (3), rarely (2), and never (1), and use of "always" or "usually" defined the "routine use" category, as opposed to the use of "sometimes", "rarely" or "never". Responses were scored ranging from 5 = "always" to 1 = "never" and a mean score was determined for each communication method from the sum of these scores. The dependent variable is the number of "routine" uses of 16 communication methods and, separately, 7 basic methods.

We also asked dentists whether they thought each of the 16 communication methods was effective, which they could answer as "yes", "no" or "I do not know". We created a scale, defined as "outcome expectancy" by a summary of "yes" answers and conjured a categorical variable based on its distribution; "low", "moderate", and "high" expectancy. Zero to 10 "yes" answers were categorized as "low" expectancy, 11 to 13 "moderate", and 14 to 16 "high", respectively. Seven of the 16 communication methods are the basic methods, and the remaining 9 methods are divided in such a way that the expectation rises in every three.

Analysis strategy

Data were analyzed using a statistics program (SPSS v23.0, IBM, USA). In addition to distributions (frequencies and percentages) of the participants' characteristics, the number of routinely used methods, and perceived effectiveness of methods, we used analysis of variance (ANOVA) to compare the mean numbers of methods used routinely for all 16 methods and also the seven basic methods. Finally, ordinary least squares regression was used to analyze the association between variables selected as the independent variables, and the number of routine use of methods as the dependent variable. Because of the relatively small sample size, we used a backward stepwise elimination process.

Results

Of the 241 participants included in the study, 59.8% were female and 40.2% were male (Table 1). The participants, in a typical work week, communicate with less than 5, 5 to 10, 10 to 20, and more than 20 elderly patients, with a distribution of 27%, 39.8%, 17.4%, and 15.8% respectively. According to the majority of the dentists and trainee dentists (40.2%), the onset of old age was 60, while the lowest being 40 and the highest being 85. The rate of the participants who were aware of health literacy was 26.1%. Compared to the number of residents and faculty members who were aware of health literacy, the number of trainee dentists who had awareness was significantly lower ($p<0.05$). Only 28.9% of the participants mentioned receiving communication training, and there was statistically no difference between titles in terms of having taken a communication course. When we asked about addressing the elderly patients as "uncle" or "aunt", the majority (72%) thought it would make the patients feel more comfortable. Out of the five barrier items we questioned as an obstacle to the implementation of communication methods, "lack of time" was seen as the most basic obstacle (82%). This was followed by thinking that the patients would not comply (47.3%), could not simplify any further (37.8%), thinking the patient was deficient in the language (37.2%), and awkwardness (22.4%).

In Table 1, the participants' characteristics are compared in terms of routine use of communication methods. While there was no difference in the average number of routine uses according to gender or age, the average number of routine use of 16 communication methods by 4th-year students was significantly higher than other titles ($p<0.05$).

Table 1. Bivariate analysis of predictor variables and mean number of communication methods used routinely

VARIABLES		16 COMMUNICATION METHODS SAMPLE SIZE* (Number and percentage)	MEAN NO. OF METHODS USED	P-VALUE	7 BASIC COMM. METHODS SAMPLE SIZE* (Number)	MEAN NO. OF METHODS USED	P-VALUE
Participant Characteristics							
Gender							
Female		144 (59.8%)	4,54	0.478	144	2,63	0.700
Male		97 (40.2%)	4,76		97	2,57	
Age (years)							
20-25		159	4,70	0.594	159	2,57	0.602
25-30		62	4,52		62	2,71	
30-40		8	5,25		8	3,00	
>40		12	3,92		12	2,33	
Title							
4th-year student		95	5,08	**0.035#**	95	2,62	0.541
5th-year student		73	4,11		73	2,48	
Dentist**		73	4,56		73	2,71	
No. of Patients Weekly							
<5		65 (27%)	4,89	0.107	65	2,57	0.589
5-10		96 (39.8%)	4,29		96	2,54	
10-20		42 (17.4%)	4,40		42	2,57	
>20		38 (15.8%)	5,29		38	2,87	
Elderly Description (years)							
>50		46	4,93	0.761	46	2,54	0.902
55		45	4,67		45	2,56	
60		100 (40.2%)	4,48		100	2,60	
>65		50	4,62		50	2,72	
Health Literacy							
Yes		63 (26.1%)	5.14	**0.046#**	63	2.95	**0.012#**
No		178 (73.9%)	4.45		178	2.48	
Comm. Course							
Yes		69 (28.9%)	4.59	0.839	69	2.70	0.576
No		155	4.66		155	2.58	
Addressing as Aunt/Uncle							
Yes		172 (72%)	4.72	0.977	172	2.62	0.714
No		37	4.70		37	2.54	
Barriers							
Lack of time	Yes	196 (82%)	4.63	0.396	196	2.61	0.655
	No	29	5.03		29	2.72	
Awkwardness	Yes	54 (22.4%)	4.41	0.183	54	2.35	**0.020#**
	No	143	4.92		143	2.81	
Cannot simplify any further	Yes	91 (37.8%)	4.73	0.950	91	2.57	0.548
	No	115	4.70		115	2.68	
Patient's language	Yes	89 (37.2%)	4.79	0.642	89	2.60	0.943
	No	115	4.63		115	2.58	
Patient will not comply	Yes	114 (47.3%)	4.65	0.766	114	2.61	0.957
	No	74	4.54		74	2.59	
Outcome Expectancy							
Low		112 (48.1%)	4.11	**0.006##**	110	2.44	0.079
Medium		65 (27.9%)	4.91		66	2.67	
High		56 (24.0%)	5.18		61	2.89	

*The sample size for each variable may not be equal to the overall sample size.

**Residents and faculty members in one variable to equal the sample sizes for each group.

P-value<0.05

P-value<0.01

The count of routinely used methods did not change according to the number of patients the participants interacted with weekly or what age they defined the patients as elderly. It was observed that the dentists and trainee dentists with awareness of health literacy used significantly more methods routinely ($p<0.05$). Participants with a background in communication training did not use more methods routinely. Participants who had taken a communication course had significantly lower outcome expectations ($p<0.05$).

Table 1 also summarizes the number of routine use of communication methods according to the dentists' and trainee dentists' outcome expectations and the reasons they see as barriers to using communication methods. 196 participants out of 240 saw the lack of time as a barrier to the implementation of communication methods. Although it was not statistically significant, it was observed that participants who thought they were comfortable in terms of time, used more methods, and those who found the use of various communication methods awkward used significantly less number of basic communication methods ($p<0.05$). We found that the outcome expectancy variable was a strong predictor and associated with the number of methods used. It was observed that the number of routinely used methods and routinely used basic methods strongly and positively correlated with the outcome expectancy ($p<0.001$ and $p<0.01$, respectively) (Table 4). Dentists who we classified as having high outcome expectancy routinely used 30 percent more methods (mean, 5.18) than did those we classified as having low outcome expectancy (mean, 4.11) (Table 1). Responses were distributed mostly between "yes" and "don't know," with a few "no" responses. For seven of the methods, including four of the seven basic methods, one-third or more of the participants reported that they did not know whether it was effective.

The frequency of use of the communication methods was generally low (Table 2). Three out of seven basic communication methods had mean Likert scale scores higher than three and among these, only one had a score higher than four.

Table 3 summarizes the expectation of the effectiveness of the communication methods. The methods that were considered most effective were "using a simple language" (96.1%) and "speaking slowly" (86.8%). This was followed by "using models or radiographs to explain" and "reading instructions out loud". "Referring patients to the internet or other information sources for information", "presenting two to three concepts at a time", and "drawing pictures or using printed illustrations" were found ineffective by the participants at a rate of 15-16%. The expectation of effectiveness was generally low. Only 24.0% of the participants had high outcome expectancy (Table 1).

The routine uses of communication methods are shown in the Figure 1. "Using a simple language" with 89.6% and "presenting 2 to 3 concepts in a conversation" with 69.7% are the communication methods the participants use most routinely. These methods were followed by "speaking slowly", "reading out loud", and "using models or radiographs to explain", respectively. The "Using videos" method was barely used routinely (2.9%).

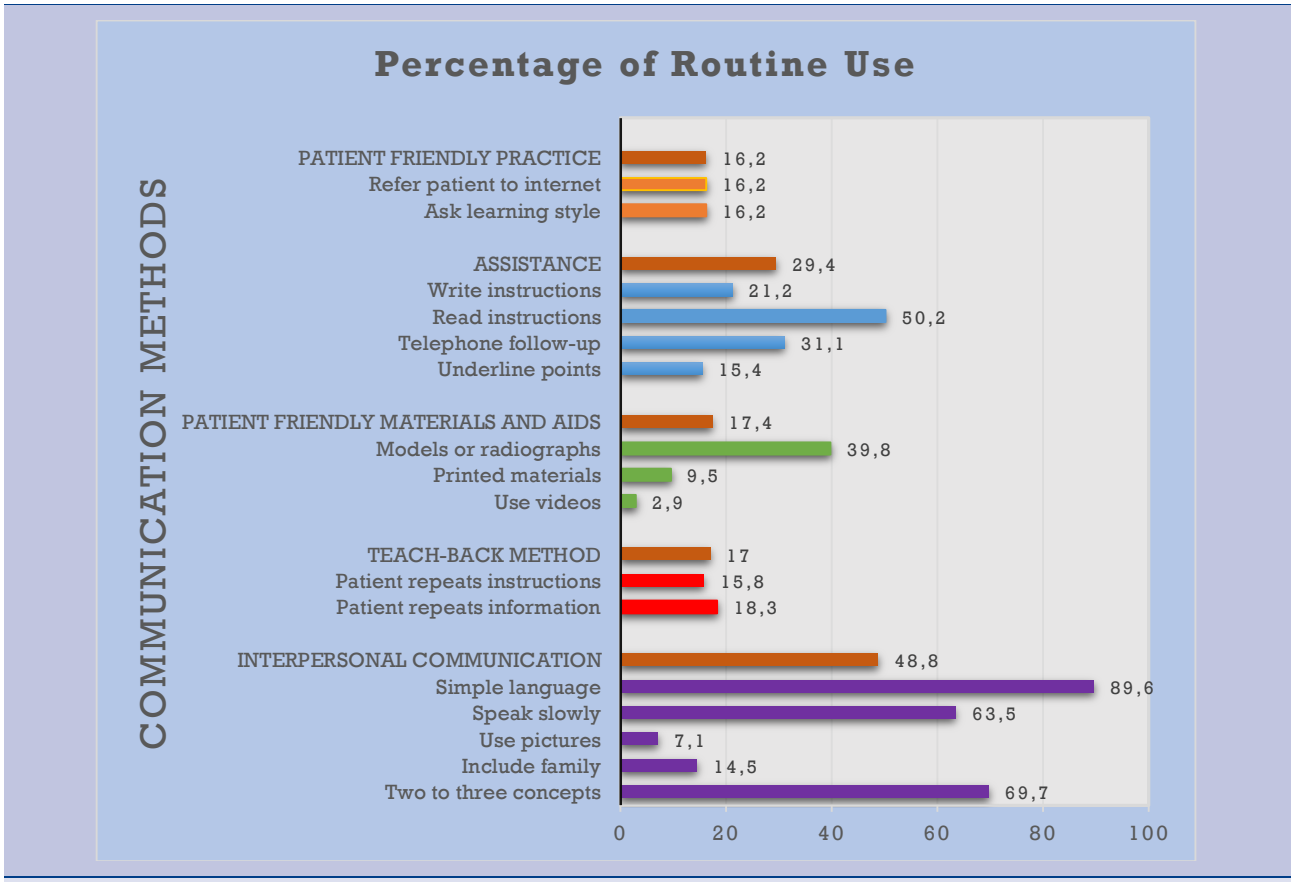

Figure 1. The routine uses of communication methods

Table 2. Percentage distribution of the participants, according to the frequency of use of communication methods and mean Likert scale scores.

DOMAIN Communication Methods	SAMPLE SIZE	DISTRIBUTION (%)					MEAN SCORE*
		Never	Rarely	Sometimes	Usually	Always	
Interpersonal Communication#		4.6	12.4	31.5	38.2	12.0	
Two to three concepts	241	0	1.7	29.0	56.8	12.4	3.80
Include family	241	21.6	34.4	29.5	11.6	2.9	2.40
Use pictures	240	46.5	29.9	16.2	6.6	0.4	1.84
Speak slowly	240	1.7	7.5	27.0	53.1	10.4	3.63
Simple language	241	0	1.7	8.7	62.7	27.0	4.15
Teach-back Method#							
Patient repeats information	241	19.5	29.9	32.4	16.6	1.7	2.51
Patient repeats instruction	241	22.0	30.7	31.5	13.3	2.5	2.44
Patient-Friendly Materials and Aids							
Use videos to explain	241	64.3	26.1	6.6	1.7	1.2	1.49
Printed materials	240	32.4	29.0	28.6	8.7	0.8	2.16
Use models or radiographs to explain	241	9.5	14.5	36.1	32.4	7.5	3.14
Assistance							
Underline points	239	33.2	22.8	28.2	12.4	2.9	2.29
Telephone follow-up	239	19.1	17.4	31.5	23.2	7.9	2.83
Read instructions out loud	239	5.8	13.3	29.9	37.3	13.0	3.38
Write instructions	240	24.9	25.7	27.9	15.0	6.3	2.52
Patient-Friendly Practice							
Ask learning style	240	39.0	25.3	19.1	13.7	2.5	2.15
Refer patient to internet	241	22.0	29.0	32.8	13.7	2.5	2.46

* Mean score on a five-point Likert scale (ranging from 1=never to 5=always).# 7 basic communication methods.

Table 3. Percentage distribution of participants. according to beliefs about the effectiveness of communication methods.

DOMAIN Communication Methods	Sample Size (Number)	Distribution (%)		
		Yes	No	Do not know
Interpersonal Communication#				
Present two to three concepts at a time	237	68.8	15.6	15.6
Ask patients whether they would like a family member or friend involved in the discussion	235	53.2	14.9	31.9
Draw pictures or use printed illustrations	235	54.9	15.3	29.8
Speak slowly	233	87.1	6.5	6.4
Use simple language	235	96.2	1.3	2.5
Teach-back Method				
Ask patient to repeat information back	234	57.3	11.1	31.6
Ask patient to repeat instructions back	236	58.5	10.6	30.9
Patient-Friendly Materials and Aids				
Use videos to explain	236	48.3	13.1	38.6
Hand out printed materials	234	62.8	11.1	26.1
Use models or radiographs to explain	236	81.8	5.5	12.7
Assistance				
Underline key points on print materials	236	66.5	11.0	22.5
Follow up with patients by telephone to check understanding and adherence	236	78.4	5.5	16.1
Read instructions out loud	236	82.2	3.0	14.8
Write or print out instructionstion	235	69.4	10.2	20.4
Patient-Friendly Practice				
Ask patients how they learn best	235	54.9	11.5	33.6
Refer patients to the internet for information	235	53.6	16.2	30.2

Table 4. Ordinary least squares regression results of predictor variables on number of communication methods routinely used.

VARIABLE	16 Communication Methods		7 Basic Communication Methods	
	Coefficient (Standard Error)	P-value	Coefficient (Standard Error)	P-value
Age	0.400 (0.326)	NS	0.333 (0.185)	NS
Gender#	0.309 (0.307)	NS	0.030 (0.174)	NS
Title*	-0.746 (0.273)	**0.007**	-0.129 (0.155)	NS
Health literacy awareness	-0.893 (0.350)	**0.011**	-0.532 (0.199)	**0.008**
Communication course	-0.284 (0.273)	NS	-0.218 (0.155)	NS
Barriers				
Lack of time	-0.133 (0.278)	NS	-0.031 (0.158)	NS
Awkwardness	-0.188 (0.237)	NS	-0.045 (0.135)	NS
Cannot simplify any further	-0.360 (0.231)	NS	-0.097 (0.131)	NS
Patient's language	-0.247 (0.241)	NS	-0.012 (0.137)	NS
Patient will not comply	-0.065 (0.207)	NS	-0.046 (0.118)	NS
Outcome expectancy	0.803 (0.192)	**<0.001**	0.301 (0.109)	**0.006**

#1=female, 2=male. *Title 1=4th-year, 2=5th-year, 3=resident and 4=faculty member. NS not significant.

Discussion

In our cross-sectional study, we created a questionnaire based on the study Rozier et al.9 conducted and also on our observations and we aimed to observe the attitudes of dentists and trainee dentists towards "aging", how often they used the recommended communication methods in communicating with "elderly" patients and whether they thought these methods were effective. When we look at the literature, no study was found on dentists/trainee dentists which the methods recommended in patient-physician communication were specifically evaluated in geriatric patients. In our study, geriatric patients were especially preferred.

The AMA and health literacy experts recommend 16 methods for dentists to use for improving communication with their patients. We observed that many of these communication methods were under-utilized and 241 participants in total, routinely used 4.63 of the 16 methods and only 2.61 of the 7 basic methods. We observed that a small number of methods were used routinely, contrary to the results of previous studies.[9,11,12] In a study9 Rozier et al. conducted on dentists in the USA, in which they did not impose any age restrictions on the patient population they communicated with, it was observed that they routinely used 7.1 of 18 methods and 3.1 of 7 basic methods. In the study12 on family physicians in the USA conducted by Weatherspoon et al., likewise without patient age restriction, it was observed that physicians routinely used 6.6 of 17 communication methods and 3.3 of basic methods. In their study[11] with nurses, Koo et al. concluded that nurses routinely used 8 of 17 methods and 4 of 7 basic methods. The number of communication methods questioned differed, but it was observed that nurses routinely used more of the 7 basic communication methods which were the same in terms of the methods included in all of the abovementioned studies. [9,11,12]

We observed that the dentists and trainee dentists who participated in our study thought that the lingual communication was the most important when communicating with the elderly and tried to keep their sentences simple and understandable. The most used methods were "simple language", "speaking slowly" and "using two to three terms at most". In the study by Rozier *et al.*[9], the most used method was "using a simple language" and it was followed by "explaining on models or radiographs", "speaking slowly" and "giving printed materials", respectively. In the studies conducted by Koo *et al*.[11] with nurses and Weatherspoon *et al.* with family physicians[12], the most frequently used methods were the methods that focused on linguistics, similar to our study. The abovementioned studies[9,11,12] were performed without age restriction in patients. This should be considered when evaluating the results because we think that restricting to only the elderly patients may affect the results of these studies.

Although studies observe that older people think positively about learning from videos and that older people also prefer it[14–16]; similar to the studies of Koo and Weatherspoon conducted, in our study, we found that the least used communication method was "using videos to explain". Stressing that the lack of time was the biggest barrier in the face of using various communication methods, "using videos to explain" can be a good communication method, as we can save time.

According to the social identity theory, outcome expectation affects the emergence of behavior.[17] Consistent with this, in our study, a positive correlation was found between outcome expectancy and the number of communication methods used routinely. In their study, Rozier *et al.* observed that as the outcome expectancy decreased, the number of routinely used methods also decreased. In the study of Koo *et al.* with nurses, the number of nurses believing in the effectiveness of the methods was higher than we dentists.

Contrary to the results of Weatherspoon *et al.*, in our study, having ever taken a communication course in addition to participants' dentistry education did not affect the number of routinely used communication methods, but there are many studies[2,18–20] emphasizing that taking a communication course affects the results positively.

Although teaching communication skills is not a part of the dental curriculum in our faculty, many schools abroad have established communication courses and consider it a central learning objective.[1,21–23] Interestingly, in our study, we observed that participants who had taken a communication course had significantly lower outcome expectations but studies on education and behavior change prove that taking health communication lessons from professionals can have a major impact on outcomes.[24] We think that if we ensure the necessary time to practice communication skills throughout the education, the students' self-confidence in interpersonal communication will increase and they will use these communication methods more frequently.

Health literacy, a term first proposed in the 1970s, generally relates to an individual's competence in the face of the complex demands of promoting and maintaining health in modern society.[25] According to the Health Promotion and Development Dictionary of the Ministry of Health of Turkey, health literacy is the cognitive and social skills that determine the motivation and ability of the individuals to access, understand and use information in ways that promote and maintain good health.[26] In the TSOY-32 study conducted in 2016, in which 400 people participated, it was found that the health literacy level of 69.4% of the study participants was insufficient or problematic.[8] It has been observed that individuals with insufficient or problematic health literacy have fewer check-ups for early diagnosis of diseases, are more careless about precautions, and occupy the emergency response units more.[27] In a study conducted in the USA, it was found that individuals with low health literacy had a higher prevalence of periodontitis.[28] Similar to Rozier *et al.*'s study9, which also questioned health literacy awareness as a criterion, the number of routinely used methods by survey participants with health literacy awareness was statistically significantly higher in our study. While the awareness rates of the dentists participating in the Rozier *et al.* study were close to each other, in our study, most of the participants were not aware of health literacy.

Trust is one of the most basic factors of the patient-physician relationship[29], and even patients with high health literacy have to trust their physicians in terms of giving correct information, keeping their private information confidential, and applying the necessary treatment in a way that is not missing or more. It was found that the OHIP-14 scores of the elderly patients who did not trust their physicians were significantly higher.30 Confidence is important for better perception and implementation of health services, and the effect of communication in creating the necessary trust has been emphasized in the studies.[31–33]

Conclusions

Our study observed that various communication methods that would strengthen communication with elderly patients and facilitate understanding and implementation of healthy behaviors found little practice in routine use. The fact that dentists and trainee dentists with low health literacy awareness use less number of communication methods shows that the health literacy awareness is not necessary only for the patients but also for the dentists. The authors of this article think that communication skills courses should be embedded into the curriculum and if we ensure the necessary time to practice communication skills throughout the education, the students' self-confidence in interpersonal communication will increase and they will use the recommended communication methods more frequently.

This study was carried out only with trainee dentists and dentists in our faculty, and the results should be evaluated in this context. Larger sample size studies are needed with dentists with a diversity of characteristics and different work conditions.

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Conflict of Interest

The authors have no conflicts of interest.

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