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Evaluation of the Attitudes of Preclinical and Clinical Students Toward the Basic Elements of Communication in the Physician–Patient Relationship at Dokuz Eylül University Faculty of Medicine

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ABSTRACT

Objective: This study aimed to assess the attitudes of preclinical (3rd-year students) and clinical (Interns) students at Dokuz Eylül University Faculty of Medicine toward basic communication elements in the physician–patient relationship and to assess the impact of clinical experience on these attitudes.

Methods: This cross-sectional analytical study was conducted during the 2024–2025 academic year and included 265 medical students. Data from 264 students who completed the questionnaire in full were included in the analysis (3rd-year students *n*=148; Interns *n*=116). Data were collected online using a 17-item attitude questionnaire developed by the researchers. Items were rated on a 5-point Likert scale, and the internal consistency coefficient (Cronbach's α) was .646. The data were analyzed using an independent samples t test, a chi-square test, and a two-way ANOVA. A *P* value <.05 was considered to indicate statistical significance.

Results: The mean overall attitude scores of the students did not differ significantly between the two terms (60.84±7.33 vs 62.36±7.56, *P*=.101). The interaction between term and sex was significant at the threshold (*P*=.046). While female 3rd-year students had significantly higher mean scores than male students did (62.26±6.03 vs 59.43±8.24; *P*=.019), this difference was not observed for interns. Item-based analysis revealed significant differences between terms, particularly regarding the items "During treatment, patients should be given as much information as they wish to know" (*P*=.043), "I do not give false hope when speaking with a patient with a poor prognosis" (*P*=.000), "I take a patient's sexual history without judgment" (*P*=.000), "I show my emotions when delivering bad news to a patient" (*P*=.004), and "I listen to everything the patient says without interruption" (*P*=.007).

Conclusion: The findings suggest that communication attitudes are largely comparable between preclinical and clinical students, with no significant overall difference between terms. Although a small interaction between term and sex was observed, its practical significance appears to be limited. These results may indicate that early structured communication training is associated with the development of stable communication attitudes. However, given the cross-sectional design, further longitudinal studies are needed to better understand how communication attitudes evolve throughout medical education and clinical training.

Keywords: Communication attitudes, medical education, preclinical education, clinical training, sex differences

INTRODUCTION

Patient–physician communication is a key determinant of clinical outcomes and patient satisfaction in modern medical practice and is defined in the medical education literature as a "learnable and teachable skill".[1,2]

The value of communication skills in the physician–relationship and their impact on both patient health and the quality of healthcare delivery are undeniable. A good physician–patient relationship improves the ability to tolerate pain and may even contribute to slowing the progression of disease. Enhancing communication facilitates the identification of symptoms, increases diagnostic accuracy, and promotes a better understanding of medical indications.[3-7] Physicians who are respectful, supportive, and informative tend to have patients who are more satisfied, adhere better to treatment, and demonstrate better prognoses.[8,9]

However, physicians employ different communication approaches, including varying levels of information sharing, partnership building, and emotional support. These differences are influenced by physicians' training, philosophy of care, and clinical experience. Additionally, gender roles, patient ethnicity, cultural background, and patient attitudes may play important roles.[10-13] Physicians may not always be objective in self-assessing their communication skills, and their perceptions may differ from those of external evaluators.[14,15]

Training activities focused on communication skills have been increasingly incorporated into undergraduate medical education programs worldwide over the past four decades. In Türkiye, communication competence is included as one of the core competency domains defined within the framework of the National Core Education Program for Undergraduate Medical Education.[16] On the basis of this framework, medical schools design and implement their own structured programs to train in communication skills.

Nevertheless, the literature presents mixed findings regarding the long-term impact of communication skills training. Several studies have reported that empathy—an essential component of communication—tends to decrease as students advance through medical school.[17-20] This phenomenon has been referred to as the "disappearance of traumatic idealization," characterized by a decline in empathy as students encounter the emotional and practical challenges of modern medical practice. Factors contributing to this decline may include an excessive number of patients, disease severity, a lack of appropriate role models during clerkships, a growing reliance on diagnostic technology, reduced bedside contact, and insufficient reinforcement of communication skills through ongoing education.[21,22] On the other hand, some studies have reported no significant difference in empathy or communication skills between preclinical and clinical students,[23] whereas others have reported variable changes in specific subcomponents of communication skills.[24]

In our faculty, within a curriculum that incorporates problem-based learning (PBL) throughout the first three years, structured communication skills training is introduced in the spring semester of the first year as part of the vertically integrated curriculum. This training is delivered through interactive small-group sessions that include theoretical input, video-based examples, and role-play activities and focuses on core communication competencies such as providing feedback, active listening, assertiveness, nonverbal communication, and empathy.

Third-year students complete this foundational training and have limited exposure to real physician–patient interactions through educational activities; however, they do not have actual clinical experience. Interns, on the other hand, are interns who have completed both basic communication and clinical training during the fourth and fifth years. They communicate directly with patients, work actively in clinical settings, assume responsibilities, and have substantial experience observing physician–patient interactions.

This research was carried out within the scope of the Special Study Modules (SSM) vertical track under the Research Skills Module, which is part of the first three-year curriculum of our faculty. The SSM provides a structured longitudinal program from the first to the third year, including Social Responsibility Projects, Human Sciences in Medicine, Critical Appraisal and Biostatistics, and Research Skills. Within the Research Skills SSM, students design and carry out a study on a topic selected by their faculty mentor under the mentor's supervision. They perform data analysis, report, and present their findings to peers and instructors at the SSM Symposium held at the beginning of the following academic year.

The aim of this study is to assess/determine the attitudes of preclinical (3rd-year students) and clinical (Interns) students at Dokuz Eylül University Faculty of Medicine toward basic communication elements in the physician–patient relationship and to assess the impact of clinical experience on these attitudes.

On the basis of this framework, the present study addresses the following research questions:

(1) Is there a difference in attitudes toward communication in the physician–patient relationship between 3rd-year students and interns?
(2) Do gender-related differences in attitudes vary between 3rd-year students and interns?
(3) Which specific components of communication attitudes differ between preclinical and clinical students?

METHODS

This cross-sectional analytical study was conducted during the 2024–2025 academic year at Dokuz Eylül University Faculty of Medicine, where a total of 645 students (352 3rd-year and 293 interns) were enrolled. A total of 265 students participated in the study, including 149 3rd-year students and 116 interns. One 3rd-year student was excluded because of incomplete data, and the final analyses were conducted with data from 264 participants.

The independent variables of the study were age, sex, and term. The dependent variable—attitude toward physician–patient communication—was assessed using 17 statements developed by the researchers in accordance with the faculty's communication skills training framework. Of the 17 items, eight were reverse-coded, and nine were positively coded. The participants rated each statement on a 5-point Likert scale (1–5) (Table 2). The total attainable score ranged from 17 to 85. Each participant's total attitude score was calculated on the basis of their responses, and analyses were conducted accordingly.

Data were collected anonymously via a Google Forms survey link shared within student communication groups. Measures were implemented to ensure that each participant could respond only once. All 3rd-year students and interns who voluntarily agreed to participate and completed the questionnaire in full were included in the study. Ethical approval was obtained from the Non-Interventional Ethics Committee of Dokuz Eylül University Faculty of Medicine (Date: March 19, 2025, Approval No: 2025/10-22). Informed consent was provided electronically at the beginning of the questionnaire, and participants could proceed only after providing consent.

For data analysis, the mean, standard deviation, minimum, and maximum values of the attitude scores were calculated. The internal consistency of the 17-item attitude scale was assessed using Cronbach's α coefficient. Independent samples t tests were used for continuous variables, while categorical variables are presented as percentages and were analyzed using the chi-square test. The level of statistical significance was set at $P<.05$. For comparisons showing statistically significant differences, the effect size was calculated using eta squared (η^2). All the statistical analyses were performed using SPSS version 24.0 (IBM Corp., Armonk, NY, USA).

RESULTS

A total of 265 participants were included in the study. Among these, 56.2% (n=149) were 3rd-year students, and 43.8% (n=116) were interns. After one 3rd-year student was excluded because of incomplete data, the final analysis was conducted with 264 participants.

The mean age of the 3rd-year students was 21.44±1.25 years (Min–Max: 20–29), whereas the mean age of the interns was 24.22±1.26 years (Min–Max: 22–30).

Among the participants, 50.0% (74/148) of the 3rd-year students and 46.6% (54/116) of the interns were female. There was no statistically significant difference between 3rd-year students and interns in terms of gender distribution ($\chi^2_{Yates}= .187$, df=1, $P=.665$).

Similarly, no statistically significant difference was found between the mean attitude scores of 3rd-year students and those of interns ($P=.101$) (Table 1).

When the mean attitude scores of female and male students were compared regardless of term, no statistically significant difference was found between genders ($P=.207$).

When the combined effect of term and sex was analyzed, the interaction between sex and term was found to be borderline significant, with a very small effect size (two-way ANOVA: $F(3, 260)=2.092$, $P=.046$, partial $\eta^2=.015$).

Within-term comparisons by gender revealed that compared with male students, female 3rd-year students had significantly higher mean attitude scores ($P=.019$), whereas no significant difference in gender was observed among interns ($p=.548$) (Table 1).

Table 1. Comparison of mean attitude scores by academic year and gender

Academic Year	Gender	N	Mean	SD	*P*
3rd-year	Total	148	60.84	7.33	.101*
	Female	74	62.26	6.03	.019**
	Male	74	59.43	8.24	
6th-year	Total	116	62.36	7.56	
	Female	54	61.91	6.99	.548**
	Male	62	62.76	8.05	

**P* value for comparison between 3rd- and interns;
*** P* value for sex comparisons within each academic year

The Cronbach's α coefficient for the 17 items designed to assess communication attitudes was .646, indicating acceptable internal consistency.

Among 3rd-year students, the highest mean score was observed for the item "I provide detailed information to the patient about the disease and treatment process" (mean=4.54±0.76), while the lowest mean score was for the item "I listen to all the patient tells; I never interrupt them" (mean=2.71±1.12) (Table 2).

For interns, the highest mean score was obtained for the item "I take the sexual history of the patient without judgment" (mean=4.79±0.52), whereas the lowest mean score was obtained for "The way the patient may change according to their age" (mean=2.71±1.31) (Table 2).

Both 3rd-year students and interns had mean scores above four for the following items:

"I provide detailed information to the patient about the disease and treatment process."

"I make sentences expressing that I understand the patient's condition,"

"I determine my communication according to the patient's body language," and

"I take the sexual history of the patient without judgment" (Table 2).

When item-based comparisons were performed, statistically significant differences between 3rd-year students and interns were found for the following statements:

"During the treatment process, the patient is given as much information as he/she wants to know" (*P*=.043),

"I do not talk to the patient with a poor prognosis by giving hope" (*P*<.001),

"I take the sexual history of the patient without judgment" (*P*<.001),

"I reflect my feelings to the patient when they are given bad news" (*P*<.001), and

"I listen to all the patient tells; I never interrupt him/her" (*P*=.004 and *P*=.007, respectively) (Table 2).

The effect size was calculated for items showing statistically significant differences between groups. The items "During the treatment process, the patient is given as much information as he/she wants to know," "I take the sexual history of the patient without judgment," "I reflect my feelings to the patient when giving bad news," and "I listen to all the patient tells; I never interrupt him/her" had small effect sizes (Table 2).

The item "I do not talk hopefully to a patient with a poor prognosis" demonstrated a moderate effect size in favor of Interns (d=.583) (Table 2).

Table 2. Mean attitude scores of students by year of study and gender

	Term	Mean	SD	*P*	Cohen's d
My communication does not change when interacting with patients whose lifestyle differs from mine.	3	3.80	1.18	.564	
	6	3.88	1.10		
I provide patients with detailed information about their illness and treatment process.	3	4.54	.76	.060	
	6	4.35	.85		
Sometimes it is possible to communicate with a patient without addressing them by name.	3	3.11	1.24	.077	
	6	3.33	1.16		
I use expressions that show I understand the patient's condition.	3	4.34	.77	.324	
	6	4.29	.81		
I adjust my communication according to the patient's body language.	3	4.19	.85	.099	
	6	4.33	.88		
During treatment, patients should be given as much information as they wish to know.	3	3.43	1.17	.043	.252
	6	3.14	1.16		
I do not give false hope when speaking with a patient with a poor prognosis.	3	3.34	1.04	.000	-.583
	6	3.95	1.03		
I take a patient's sexual history without judgment.	3	4.44	.99	.000	-.432
	6	4.79	.52		
*****My negative past experiences with patients affect how I treat future patients.	3	3.33	1.19	.271	
	6	3.42	1.22		
*****The form of address may vary according to the patient's socioeconomic background.	3	3.63	1.41	.083	
	6	3.37	1.56		
*****The form of address may vary according to the patient's age.	3	2.72	1.37	.478	
	6	2.71	1.31		
*****Problems in my personal life affect my approach to patients.	3	3.70	1.24	.279	
	6	3.61	1.26		
*I show my emotions when delivering bad news to a patient.	3	3.15	1.11	.004	-.333
	6	3.53	1.16		
*****I use medical terminology when providing information to patients.	3	3.37	1.08	.145	
	6	3.50	.88		
***** I listen to everything the patient says without interrupting.	3	2.71	1.12	.007	-.334
	6	3.05	1.13		
***** The presence of a patient's relative affects my communication with the patient.	3	3.08	1.13	.427	
	6	3.05	1.38		
***** It is possible to take an accurate medical history without establishing eye contact with the patient.	3	3.96	1.29	.264	
	6	4.06	1.28		

Items marked with an asterisk (*) were reverse-coded prior to analysis.

DISCUSSION

This study provides insight into medical students' attitudes toward fundamental communication elements in the physician–patient relationship across different stages of medical education. In this study, the attitudes of medical students toward basic communication elements in the physician–patient relationship were evaluated and compared between two groups: 3rd-year students, representing the preclinical stage, and interns, representing those with clinical experience.

Attitudes toward fundamental communication skills were assessed using 17 items developed by the researchers on the basis of the communication skills training topics in our faculty's curriculum. The internal consistency of these items, evaluated by Cronbach's α coefficient, was 0.646, indicating a moderate level of internal consistency. As such, the items used in this study should be considered a study-specific measurement tool rather than a standardized or highly reliable scale.[25,26]

When the mean attitude scores of 3rd-year students and interns and those of female and male students were analyzed separately, no significant differences were observed between the groups (*P*=.101 and *P*=.207, respectively). When the combined effect of term and sex was examined, a statistically significant interaction was identified, although with a small effect size ($F(3, 260)=2.092$, *P*=.046, partial $\eta^2=.015$). Cohen emphasizes that small effect sizes—although statistically significant—may have limited practical importance.[27] Similarly, Lakens notes that even very small effects can reach statistical significance, particularly in large samples; therefore, the results should be interpreted in terms of both statistical and practical significance.[28] In this context, although a statistical interaction between sex and term was identified, the low effect size suggests limited educational or clinical relevance because of the minimal variance explained.

Within-term comparisons by gender revealed that compared with male students, female students among 3rd-year students had significantly higher mean attitude scores, whereas no such difference was observed among interns (*P*=.019 and *P*=.548, respectively) (Table 2). This pattern is consistent with previous studies reporting higher communication- and empathy-related scores among female students.[11,13,29] However, these studies primarily document gender-based differences and do not directly examine the underlying sociocultural mechanisms. Therefore, while the observed difference in 3rd-year students may be interpreted in light of such explanations, this interpretation should be considered cautiously.

The absence of a sex difference among interns, in contrast to 3rd-year students, suggests a term-specific pattern in communication attitudes. However, given the cross-sectional design of the study and the small effect size, these findings do not allow conclusions to be drawn about changes over time or the causal impact of clinical experience. Rather, it indicates that the sex difference observed in the preclinical stage is not evident in the clinical stage within this sample.

Notably, no significant difference in overall attitude scores was observed between 3rd-year students and interns. This may suggest that students who have already developed a foundational awareness and attitude toward communication through structured preclinical training maintain these attitudes during the clinical phase. In this sense, the clinical phase may function more as a context for reinforcement rather than as a further measurable change. These findings underscore the potential importance of structured, early-stage communication skills training in shaping and sustaining communication-related attitudes throughout medical education and professional practice.

In our study, no statistically significant difference was found between the mean total attitude scores of 3rd-year students and those of interns (*P*=.101). While some studies have reported a positive progression in students' communication competencies as they advance into clinical years,[30] others have demonstrated a decline in key communication components as medical training progresses.[31,32] This bidirectional variation may be explained by the interplay of several factors, including the timing and structure of communication skills training, the quality and nature of clinical experiences, the influence of the implicit curriculum, and the effectiveness of feedback mechanisms, all of which may differ across institutions and programs.

The absence of a significant difference between the preclinical and clinical terms in our study may be attributed to the early introduction of structured communication and patient contact beginning in the first year of our curriculum. Another important consideration is the long-standing implementation of problem-based learning (PBL) among our faculty during the first three terms. In the meta-analysis conducted by Trullàs et al. on the effectiveness of the PBL method, it was found that PBL significantly contributes to the development of communication skills.[33] Thus, beyond formal communication skills courses, our students may have developed more enduring and consolidated communication attitudes through PBL experiences, which could have mitigated the potential negative impact of clinical exposure observed in other studies. Nevertheless, more detailed and longitudinal studies are warranted to explore this further.

When individual attitude statements were compared between 3rd-year students and interns, significant differences were observed in the items related to taking sexual history, giving hope to patients with a poor prognosis, expressing emotions while delivering bad news, and listening to the patient without interruption. The evaluation of effect sizes revealed a moderate

effect size in favor of interns only in the items concerning not giving hope to patients with a poor prognosis and who were taking a sexual history. This suggests that although overall communication attitudes remain relatively stable throughout medical education, clinical experience makes a measurable contribution to certain affective and ethical aspects of communication.

Conversely, the small effect sizes observed for items such as "listening to the patient without interruption" and "reflecting emotions while delivering bad news" may indicate that development in these areas remains limited. This issue should be further examined through more detailed future studies.

Limitations

Our study is a cross-sectional assessment of attitudes based on participants' self-reported evaluations. Attitude assessments may have limitations in capturing and explaining actual real-life behaviors, as they rely on individuals' perceptions rather than observed performance. However, since the physician–patient relationship typically develops over time, even observational studies assessing communication behaviors may be limited in evaluating the long-term and dynamic aspects of this relationship.[3]

Additionally, the attitude items used in this study were developed on the basis of the learning objectives outlined in our faculty's communication skills curriculum. These items did not undergo an independent scale development and validation process; therefore, this should be taken into account when the findings are interpreted and generalized.

CONCLUSION

This study revealed that the attitudes of medical students toward basic communication elements in the physician–patient relationship did not differ significantly between preclinical and clinical terms. However, certain subcomponents of communication showed differences associated with clinical experience. Early structured communication training appears to have a lasting positive effect on students' attitudes. Nonetheless, to sustain and further enhance this impact, it is essential that clinical training environments incorporate systematic observation, constructive feedback, and effective role modeling. Strengthening these components within the clinical phase can help ensure that the communication competencies gained during preclinical education are continuously reinforced and translated into professional practice.

Statements and Declarations

This research was carried out within the scope of the Special Study Modules (SSM) vertical track, under the Research Skills module, which is part of the first three-year curriculum of our faculty. The SSM provides a structured longitudinal program from the first to the third year, including Social Responsibility Projects, Human Sciences in Medicine, Critical Appraisal and Biostatistics, and Research Skills. Within the Research Skills SSM, students design and carry out a study on a topic selected by their faculty mentor, under the mentor's supervision. They perform data analysis, reporting, and present their findings to peers and instructors at the SSM Symposium held at the beginning of the following academic year.

Ethics Committee Approval: Ethical approval was obtained from the Non-Interventional Ethics Committee of Dokuz Eylül University Faculty of Medicine (Date: March 19, 2025, Approval No: 2025/10-22).
Informed Consent: Informed consent was obtained from the participants.
Peer-review: Externally peer-reviewed.
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