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Medical Students' Perceptions of the Value of Communication Skills and Their Attitudes Towards Learning Soft Skills

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Abstract—**Effective communication skills are essential for clinical practice; medical students' attitudes toward physician-patient communication are a real concern among the medical community. The present study aims to investigate the positive and negative attitudes of RUDN University medical students toward learning communication skills and to compare our findings with those from other countries. We adopted the Communication Skills Attitudes Scale (CSAS) as the primary research instrument due to its widespread use, validity, and reliability. First- and second-year medical students (n = 300) completed an online 26-item questionnaire, and all responses were analyzed using SPSS v. 20. Our study findings demonstrate that medical students consider learning communication skills essential for their professional clinical practices and for fostering a healthy environment between doctors and patients. We found that students had significantly more positive attitudes towards learning communication skills. Furthermore, statistically significant differences were found between the positive attitude scale and the negative attitude scale between male and female students. Overall, the findings of principal component analysis suggest the differences in eight components out of twenty-six items in many aspects from those of earlier research studies. The study concludes that attitudes towards communication skills are very important in guiding the communication skills of medical students and help them more broadly in learning communication skills.**

Index Terms—**communication skills, CSAS, learning needs and attitudes, medical students**

I. Introduction

Effective communication skills (CS) are essential to the doctor and patient relationship. Learning about attitudes toward communication skills is of interest to the medical community, curriculum developers, and policy advisors (Meryn, 1998). Better communication skills develop, maintain, and sustain relationships and are adapted to improve patient health outcomes, such as satisfaction, better self-care, and adherence (Street et al., 2009).

Communication skills include face-to-face interpersonal communication, oral presentations, group communication, speaker-audience communication, telephonic communication, conferences and seminars, speeches, interviews, group discussions, meetings, and negotiation skills. The choice depends on the need and purpose of the communication. Soft skills, including interpersonal and socio-emotional skills, are in high demand in the job market. These skills not only reflect personal skills but are also based on concepts such as social responsibility, creativity, ethics, and emotional intelligence (Villán-Vallejo et al., 2022, p. 485). Soft skills are skills related to political, personal, and interpersonal relationships in a work environment or personal life, and each job requires different skills (Acharya et al., 2023).

Researchers have focused on medical students' attitudes toward communication learning (Anvik et al., 2007; Rees et al., 2002; to name a few). Investigating attitudes of recently admitted undergraduate medical students toward communication skill learning, the study finds a positive learning attitude (Timilsina et al., 2019). It has been observed that many graduates remain unemployed even though their academic performance is excellent. The main reason for these graduates has been identified as the lack of effective communication skills. This is because the demand of organizations in recruiting manpower has changed. Consequently, graduates need to possess "soft skills", such as the ability to socialize, communicate, and exchange ideas to support their "hard skills" (New Straits Times, 2007).

Their study indicates that facilitation and importance within the medical context were the two main attitudinal aspects to improve CS learning. Interpersonal communication skills in medical consultations significantly affect doctor and patient relations and can improve international clinical placement (Bellier et al., 2022). Attitudes toward learning communication skills determine how medical students will invest in acquiring these skills and how they will be used in caring for individual patients (Anvik et al., 2008). To address this research gap in knowledge, the purpose of our study was to investigate how important communication skills are perceived by RUDN University medical students and to assess their positive attitude scale (PAS) and negative attitude scale (NAS) toward learning communication skills.

II. Need and Attitude Towards Learning Communication Skills for Professional Development

Communication skills (CS) or soft skills (SKs) are important across various professional career development, particularly in the medical fraternity. Soft skills (SKs) are defined as the group of skills acquired by a person that facilitate the optimization of their own performance. One of the most important skills in medicine is communication (Mohamad-Isa et al., 2021). The importance of communication skills is highlighted by WHO for doctors as the quality of care, promoting a healthy lifestyle, adapting to the use of new technologies, reconciliation of individuals and community, and the ability to work in a team (Cleland et al., 2005). English language is needed among learners for professionalization and developing positivity towards communication skills (Khokhar et al., 2021).

The Ministry of Health (Minzdrav) of the Russian Federation also emphasizes that medical students who finish their undergraduate studies shall obtain effective communication skills. In this era of globalization, international project leadership, cultural communication, and cooperation are constantly increasing. This indicates that graduates must be well-versed in effective communication skills. Kuzminov et al. (2019) found that the skill sets of employable human capital include both general skills and specific skills. They described that specific skills are developed through years of focused education and work experience in a specific field. It is worth mentioning here that general skills are divided into two categories: soft skills and hard skills. Zhao and Kularatne (2020) showed that soft skills are cognitive and interpersonal in nature, which ensures successful social integration in the workplace. In contrast, hard skills involve IQ and cognitive performance to technically control various processes and tools. Therefore, lesser or ineffective communicative skills can create problems and can lead to poor delivery of information, failure to understand the doctor-patient perspective, etc. This can be avoided by acquiring communication effectively (Hobgood et al., 2005).

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In the field of health sciences, the need to work on these types of competencies is particularly apparent, as their many benefits are highlighted in the clinical context of patient care (Sancho-Cantus et al., 2023). Changing patient expectations requires an update in thinking about communication skills assessment in health professions education. This consensus statement draws on existing literature, expert opinion, and emerging challenges to establishing communication skills assessment in the contemporary health professions education context (Gilligan et al., 2024). Schmidt (2023) found that health professionals, particularly interns, enjoyed the informal interaction with faculty, staff, and other program practitioners. They appreciated the opportunity to learn soft skills such as interpersonal communication, conflict resolution, and leadership.

Factors affecting communication skills and competence are: communication apprehension is a person's degree of fear or anxiety related to either anticipated or real communication with another person or persons. Communication apprehension is present during academic and non-academic settings that affect communication skills. Communication apprehension has been explored to improve the oral communication skills of undergrads because it badly affects students' educational success (McCroskey et al., 1989). Communication apprehension is directly related to the oral communication performance of students, and it is the most quoted barrier in a variety of communication studies. Communication anxiety, social anxiety, stage fright, performance anxiety, unwillingness to communicate, poor confidence, shyness, confusion, reticence, fear, stress, low self-esteem, nervousness, and audience sensitivity are all directly related to communication apprehension of undergraduates (Soomro et al., 2019).

III. Data and Methods

A. Participants and Procedures

All participants were medical students of Peoples' Friendship University of Russia (RUDN University), Moscow, Russia. The data were collected from March to May 2024. Moreover, we asked for background data such as age, gender, year of study, and year of studying the communication skills subject/course. The number of responses was based on a self-reported online questionnaire survey created in Google Forms, of which we received first- and second-year students

(n=300) 26-item online questionnaire and all responses. Students were at the bachelor's level from the medical faculty. The overall response rate was higher among female (75.3%) than male (24.7%) students (see details in Table 1).

B. Ethical Considerations

The data collection procedure of the study was in line with research ethics, and all participants remained anonymous. Moreover, the participation was voluntary, and digital informed consent was obtained. However, our study does not involve any experimentation and did not ask for any sensitive information; the ethical approval from the scientific research committee of RUDN University was not required according to the rules.

C. Instrument and Measures

The Communication Skills Attitude Scale (CSAS) was developed by Rees et al. (2002) to determine medical students' attitudes towards learning communication skills. The CSAS consists of 26 items/statements: Subscale-I Positive Attitude Scale (PAS) 13 items (1, 4, 5, 7, 9, 10, 12, 14, 16, 17, 21, 23 and 25) for example, learning communication skills will increase or improve my ability to communicate with the patient – item 10.

While subscale II 13 items (2, 3, 6, 8, 11, 13, 15, 18, 19, 20, 22, 24, and 26) Negative Attitude Scale (NAS), e.g., "I don't see the point in learning communication skills" – paragraph 2, to learn communication skills. The CSAS consisted of a five-point Likert scale: 1=strongly disagree and 5=strongly agree. However, to achieve similarity in positive and negative item scores, NAS item scores were reverse-coded with the 13 negative items.

We present both PAS and NAS statistics to describe possible score variance in attitudes toward communication skills. We distributed both the translated (Russian) version of CSAS and the English version. However, the Russian translated version, after data collection, was back-translated into English for data analysis. The reason for using CSAS became certain due to its high reliability and validity. The instrument is widely adopted and adapted to fit the study contexts in several research studies (Fazel & Aghamolaei, 2011; Anvik et al., 2007; Zhang et al., 2019; among many others).

D. Statistical Analyses

We analyzed the data by performing the following statistical tests: reliability test, Cronbach's α coefficient for internal consistency of SCAS, descriptive statistics of PAS and NAS, Principal Components Analysis (PCA), and t-test of PAS and NAS among male and female students.

IV. Findings

A. Participants' Features

The sociodemographic features of the participants' age were observed as 96.6% between 18 and 25 years, and the male students were 24.7% and the ratio of female respondents increased to 75.3%. The sample size is limited and cannot be representative of the broader population of Russian medical students. We asked participants to indicate what year they studied the communication skills course; they responded that 67.4% were in the first year, and 32.6% in the second year. However, the data collected from respondents ranged from the highest number of first-year (51.7%) to fifth-year (2.3%) students. Table 1 reports the sociodemographic features of 300 respondents who filled out the online questionnaire, SCAS of this study. However, seven questionnaires were dropped due to incomplete responses.

Table 1
Sociodemographic Characteristics of the Participants

Characteristics		Total (n = 300) N (100%)	Total
Age (years)	18-21	76.4	
	22-25	20.2	100%
	26-28	2.3	
	29-31	1.1	
Gender	Female	75.3	100%
	Male	24.7	
Year of studying communication skills	1st	67.4	100%
	2nd	32.6	
Current year of studies	1st	51.7	
	2nd	21.3	
	3rd	20.2	100%
	4th	4.5	
	5th	2.3	
	6th	0	

B. Communication Skills Attitudes Scale (SCAS)

The internal consistency of the scale was confirmed by Cronbach's alpha coefficients (see Table 2). The scale items showed a .664 reliability of the internal consistency of the items. Additionally, we performed reverse coding of the scores on negative statements.

TABLE 2
RELIABILITY TEST

Reliability Statistics	
Cronbach's Alpha	Number of Items
.664	26

C. Scores of Students' Attitudes Towards Learning Communication Skills

The descriptive statistics of the subscale-I positive attitudes scale (PAS) toward learning communication skills comprised 13 items (1, 4, 5, 7, 9, 10, 12, 14, 16, 17, 21, 23, and 25). For subscale-I score, which demonstrates significant differences in positive items like 'to be a good doctor I must have good communication skills', the mean was 4.27 with .853 standard deviations. The positive items' weightings ranged from 4.10 (item 10) to 3.20 (item 17). In addition, all positive items showed minimum standard error ranging from .044 (item 23) to .058 (item 25).

Of the 26 items, the subscale-II negative attitudes scale (NAS) includes (2, 3, 6, 8, 11, 13, 15, 18, 19, 20, 22, 24, and 26) items that show negative attitudes towards communication skills learning. For subscale-II score indicates considerable differences of negative items, e.g., 'I can't see the point in learning communication skills', the mean was 3.99 with .993 standard deviations. The positive items' weightings ranged from 3.73 (item 19) to 2.41 (item 18). Moreover, all negative statements indicate minimum standard error ranging between .046 (item 22) and .057 (item 2). Statistically, there were significant differences between the mean of PAS, which was higher at 4.27, and the lowest NAS was 2.41 for learning communication skills (see details in Table 3).

TABLE 3
DESCRIPTIVE STATISTICS OF SUBSCALE-I PAS AND SUBSCALE-II NAS ITEMS

No.	Subscale-I 13-items PAS	Mean	SE*	SD**
1.	Positive item 1	4.27	.049	.853
2.	Positive item 4	3.87	.053	.918
3.	Positive item 5	4.00	.053	.913
4.	Positive item 7	3.94	.045	.771
5.	Positive item 9	4.04	.046	.800
6.	Positive item 10	4.10	.046	.793
7.	Positive item 12	3.56	.050	.865
8.	Positive item 14	3.90	.048	.828
9.	Positive item 16	3.78	.049	.844
10	Positive item 17	3.20	.048	.830
11	Positive item 21	3.68	.050	.865
12	Positive item 23	3.56	.044	.754
13	Positive item 25	3.76	.058	1.00
	Subscale-II 13-items NAS***			
1.	Negative item 2	3.99	.057	.993
2.	Negative item 3	3.05	.054	.931
3.	Negative item 6	3.22	.054	.932
4.	Negative item 8	3.08	.054	.943
5.	Negative item 11	2.89	.049	.847
6.	Negative item 13	2.82	.048	.866
7.	Negative item 15	2.96	.049	.849
8.	Negative item 18	2.41	.050	.866
9.	Negative item 19	3.73	.057	.980
10	Negative item 20	2.98	.053	.920
11	Negative item 22	2.78	.046	.801
12	Negative item 24	3.27	.055	.955
13	Negative item 26	3.49	.055	.952

* SE= Standard Error ** SD= Standard Deviation *** NAS items scores were reversed and coded

D. Factor Structure

The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.720, and Bartlett's test of sphericity showed significance <0.000, both indicating that principal component analysis (PCA) was appropriate.

Of the 26 questionnaire items, principal components analysis using the varimax rotation method with Kaiser normalization yielded eight factors with raw eigenvalues >1, explaining 69.4% of the variance (Table 4). Table 4 and the graph (Figure 1) show that the CSAS mostly tests one factor that explains 26.3% of the variance. Furthermore, the scree plot showed equality from factor 7 onwards. Thus, we included two additional factors that explained 9.7% and 8.3% of the variance, respectively.

TABLE 4
PRINCIPAL COMPONENTS ANALYSIS BETWEEN FACTORS WITH EIGENVALUES GREATER THAN 1

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.1	26.355	26.355	3.572	13.229	13.229
2*	2.6	9.701	36.057	3.563	13.198	26.427
3*	2.2	8.391	44.448	2.570	9.520	35.947
4	1.8	6.916	51.364	2.134	7.904	43.851
5	1.4	5.405	56.769	2.018	7.473	51.324
6*	1.3	4.990	61.758	1.838	6.807	58.131
7	1.0	3.875	65.633	1.641	6.078	64.209
8*	1.0	3.829	69.462	1.418	5.253	69.462

Extraction method: Principal Component Analysis
Rotation method: Varimax with Kaiser Normalisation, 8 components extracted out of 26
* Items are negative, and the score has been reversed and coded

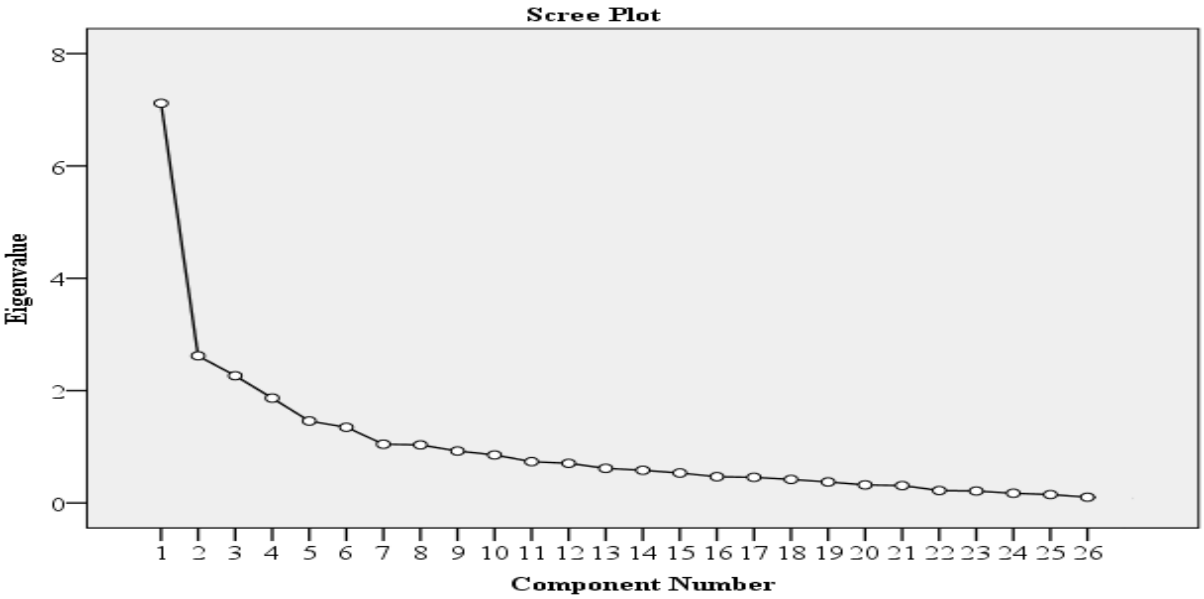

Figure 1. Scree Plot With Eigenvalues for Each of the 26 Components

E. Attitudes of Different Genders Toward Learning Communication Skills

The findings on the differences between genders (both male and female) towards learning communication skills were significant. The mean score for subscale-I PAS among female students was 62.5 (SD=6.4 and SE=1.29402), and for male students, the mean score was 53.8 (SD=4.9 and SE=0.42987). For subscale-II NAS, males' mean score was 38.7 (SD=2.3 and SE=0.62379), and for females, 24.8 (SD=4.3 and SE=1.38795). Thus, the female students had more positive attitudes in comparison to males on subscale I. Moreover, a similar tendency was observed in that female students had significantly less negative attitudes in contrast to male students towards learning communication skills on subscale-II (Table 5).

TABLE 5
COMPARISON OF ATTITUDES USING T-TEST IN MALE AND FEMALE STUDENTS TOWARDS LEARNING CS

Subscales	Male (*n*=74)			Female(*n*=226)			t	*P*
	Mean	SD	SE	Mean	SD	SE		
PAS	53.8	4.9	0.42987	62.5	6.4	1.29402	-7.5	0.00*
NAS	38.7	2.6	0.62379	24.8	4.3	1.38795	5.3	0.01*

* *P<0.05*

V. DISCUSSION

Our study provides significant evidence of undergraduate students' characteristics that are possibly determinants of attitudes toward learning communication skills. Moreover, students' sociodemographic characteristics, for instance, the year of studying the course communication skills, were divided into two years; some students studied in their first year, and others in their second year. However, their current year of studying was found to be affecting the importance and attitudes towards learning communication skills. Similarly, other studies support our study findings that medical students prove that communicative abilities are determined by factors such as professional experience, empathic tendency, and the intensity of agreement (Iwanow et al., 2021).

All Subscale-I variables were positive statements about learning communication skills, indicating that Subscale-I demonstrated medical students' positive attitudes toward communication skills. Furthermore, the second subscale suggests negative statements about learning communication skills (items 2, 6, etc.). The results of our study are consistent with similar studies, including those by Rhee et al. (2002) and Cleland et al. (2005) who analyzed the PAS of female students with significantly higher grades and lower mean NAS scores than male students compared to male students. Male and female students have positive attitudes towards learning communication skills. According to Ruiz-Moral et al. (2021), there was a significant decrease in positive attitudes and a significant increase in negative attitudes among medical students regarding communication skills. Notably, female students exhibited more positive attitudes toward communication skills than male students. Men tend to overestimate their communication skills, which could be the cause of this trend (Rees & Sheard, 2002). Data analysis on medical undergraduates shows that attitudes toward developing communication skills are mixed for men and women. Overall, female students outperformed male students in our study in terms of positivity.

Previous research studies show conflicting findings regarding whether younger medical students have better learning attitudes compared to older students (Rees et al., 2002; Rees & Shread, 2002). However, our findings did not find that age was a factor influencing the importance of learning communication skills in situations. The students in our study considered it important, without significant age differences. Although the gender ratio of PAS and NAS students is the greatest predictor of positive attitudes towards communication skills in dental students in Malaysia (Noor et al., 2011), a similar trend was also observed in our study. In contrast, several studies in Nepal (Timilsina et al., 2019), Sri Lanka (Marambe et al., 2012), and India (Varma et al., 2018) did not find statistically significant differences between genders in learning attitudes towards communication skills.

Therefore, it may be that the academic environment and cultural influences are such that female students in our study tended to be more positive and willing to take leadership roles in doctor-patient communication. Moreover, the workshop participants reported learning more about positive strategies for communicating with team members, feeling more comfortable working with other professionals to encourage positive team dynamics, and feeling better about their differences. Professionals were more willing to encourage team leadership (Shrivastava et al., 2022).

VI. Conclusion

The purpose of this study was to determine the trends and significance of communication skills learning among medical undergraduates. Our results confirm the hypothesis that medical students have both positive and negative attitudes and believe that learning communication skills is important. The gender of the student is a significant factor in placement determination. According to the findings of our study, female students are more enthusiastic about acquiring communication skills than male students. Nonetheless, there were not many gender differences when it came to the importance of communication skills, as both thought they were crucial for a better understanding of the relationship and for clinical practice between doctors and patients. Consequently, these results can be used as compelling evidence to emphasize the value of communication skills education and alter the way that medical students approach learning about soft skills.

The study has some limitations: the sample size is small; therefore, the generalization of the findings may be difficult. Students were selected from only one university, the CSAS used statistical analyses, and interviews of the participants can increase the validity of quantitative findings. Situational, cognitive, and affective factors were excluded when interpreting the findings.

Key practical points
▪ Medical university students' attitudes towards learning communication skills seem to differ significantly, and they consider it important for doctor-patient interaction and relations.
▪ Female students appear to be more positive towards learning communication skills; hence, gender is a significant variable affecting the attitudes.
▪ The findings of our study corroborate with previous studies that the attitudes of medical students were established based on different sociodemographic characteristics.
▪ Further research is important to determine the effects of changing different aspects of medical students' attitudes toward learning communication skills.

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