

Comparison of communication skills of third year and final year MBBS undergraduate students using Kalamazoo Scale

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^{3,4,5} Experimentation/Study conduction

^{1,7,8,9} Analysis/Interpretation/Discussion

^{1,2,3,4,5,7,8,9,10} Manuscript Writing

^{2,4,5} Critical Review

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Article Processing

Received: 21/11/2021

Accepted: 12/08/2022

Cite this Article: Shahbaz, H., Ch, S.J., Younas, M.W., Mairaj, W., Iftikhar, S., Zaidi, N., Munir, W., Fatima, S., Zahra, M., Fatima, R. Comparison of communication skills of third year and final year MBBS undergraduate students using Kalamazoo Scale. Student Supplement of Journal of Rawalpindi Medical College. 15 Sep. 2022; 26(1): 5-10.

Conflict of Interest: Nil

Funding Source: Nil

Access Online:



Abstract

Background: Efficient communication is the mainstay of a productive patient-physician relationship. Efficient use of proficient communication skills is essential for patient care, therapeutic and diagnostic purposes as well as in establishing a satisfactory doctor-patient relationship.

Objective: To compare the communication skills of third-year and final-year MBBS students of Rawalpindi Medical University and to assess the gap in communication skills for third-year and final-year MBBS students of the University.

Materials and Methods: This descriptive cross-sectional survey was conducted in March-December 2021 after institutional review board approval at Rawalpindi Medical University, Pakistan. Of 242 participants, 121 students each from the third and final year were asked to fill out the questionnaire according to the Kalamazoo scale [1]. Data were analyzed using SPSS 25. The mean, standard deviation, and P-value was calculated to assess the communication skills on variables of interest. (P-value < 0.05 was considered significant).

Results: The number of students with average communication skills in the third year was 21.5% and with good communication skills was 78.5%. In the final year, average communication skills were found in 15.7% and 84.3% had good communication skills. In our study gathering, information from patients showed a significant P-value (p=0.002).

Conclusion: Results suggested that final year students had a stronger grip on communication skills, specifically in gathering information from patients, as compared to the third year. Both third-year and final-year students had a major communication skill gap in reaching agreement and understanding patient problems. These results propose that comprehensive communication training, workshops, and feedback may be needed to increase students' perception of various aspects of communication.

Keywords: Communication skills, undergraduates.

Introduction

Communication is as remote as human existence; from the first moment of his presence, one finds himself in a network of correlations between himself and his environment.¹ Humans are the only beings who communicate through highly intricate and complex learning behaviors that include better use of gestures and facial expressions and highly instinctual language and practices.² Practicing effective communication skills in clinical practice benefits both patient and doctor categorically.³ Efficient communication is the mainstay of a productive patient-physician relationship.⁴ Research and evidence have validated that medical students are more observant, motivated, and actively develop clinical communication skills (CCS) proficiently alongside other medical skills.^{5,6,7} Students are also convinced that studying communication skills over the years of their medical journey and incorporating them effectively into clinical practice is crucial for efficient medical practice.⁸ Effective communication skills are the core competencies of healthcare professionals.⁹ Communications skills are indispensable for medical practice, upon which many areas of medical profession and patient's health are dependent upon. It encompasses initial contact interview with the patient, investigation of additional problems and associated complications, patient counseling for disease prognosis and description of all possible treatment options with their pros and cons, their complications as well as follow-up advice.¹⁰

Efficient use of proficient communication skills is essential for patient's care, therapeutic and diagnostic purposes as well as treatment processes and in establishing satisfactory doctor-patient relationship.¹¹ In addition to reading and writing, listening, expressing, and management skills are important for effective communication. If mastering medical and clinical skills is the mainstay of medical practice, then developing efficient communication skills is the cornerstone of it.¹² Skillful interpersonal communication not only helps students deliver knowledge and ideas more effectively in professional settings, but also promotes completing tasks in teams. Interpersonal skills enable people to collaborate effectively with others in multinational settings.¹³ Nonverbal communication plays an important role in a group's interpersonal skills.

Communication gap among doctors themselves, nurses and doctors, and between patients and doctors will lead to breach in proper patient care due to misinterpretation.¹⁴ Several reasons for this kind of misunderstanding are institutional culture, workplace stress, absence of specific responsibility to individuals, lack of team learning, lack of inter professional meetings, varying skill levels, personal values, and more.¹⁵ In India, medical undergraduates usually acquire communication skills by watching their senior professors, facilitators and medical professionals. Prior to introducing competency-based medical education, there was no distinct way to teach communication skills to medical undergraduates.¹¹ As teachers, assessment helps to determine whether students have acquired ample and effective communication skills to encounter the needs and requirements of future real-world situations. As a student, assessment helps students receive feedback on their performance and to identify and estimate their own learning needs.¹⁶ Both ways, assessing the communication skills of medical undergraduates is imperative.

The rationale of our study was built upon assessing communication skills to determine if students have learnt this core competency. Subsequently, areas of gaps can be identified and curriculum developers can help to fill this gap. This is to ensure that the dehumanized care the medical professional is accused of, and the spectrum of errors arising along with the advancement of the medical sciences, is self-regulated by the university in alignment with setting appropriate standards in the undergraduate and postgraduate medical education mandated by the accrediting body, the Pakistan Medical Commission.

The aims and objectives of our study were to compare the communication skills in third year and final year MBBS students of Rawalpindi Medical University and to assess the gap in communication skills for third year and final year MBBS students of Rawalpindi Medical University.

Materials and Methods

A descriptive cross-sectional study was conducted on final year and third year medical students after Ethical Review Board approval at the Rawalpindi Medical University, Pakistan. Participation in the study was voluntary. Foreigner students having language barrier were excluded. Random sampling was used, and 242 students participated, 121 from each year of study.

Evaluation of participant's communication skills was done by direct observation using standardized framework of Kalamazoo essential elements communication checklist¹. Scoring of Kalamazoo scale was done according to Likert scale where done well was given a score of 4 and not applicable was given a score of 1. Score range was found to be 72, where maximum score was 96 and minimum score was 24. According to this score, cut off values were set as: 24-48=Poor communication skills, 48-72=Average communication skills and 72-96=Good communication skills

Sub score for each of the 7 subscales was also calculated. Communication skills were assessed on 7 subscales of Kalamazoo checklist as follows: **Subscale 1:** Building relationship, **Subscale 2:** Open the discussion, **Subscale 3:** Gather information, **Subscale 4:** Understand the patient's perspective, **Subscale 5:** Share information, **Subscale 6:** Reach agreement, **Subscale 7:** Provide closure. Mean score and standard deviation for each subscale and for each year of study was calculated along with P-value. A P-value of < 0.05 was considered significant. Statistical analysis was completed using SPSS 25. Categorical data were computed as frequencies and percentages.

Results

The results were compiled for 242 participants of Rawalpindi Medical University with respect to their year of study, 121 students each from third year and final year class of MBBS. Mean score for each of the subscale of Kalamazoo checklist was calculated for each year of study as shown in Table I.

Subscale 1: Building relationship: The mean value for third year in this subscale was 10.5124 with the S.D of 1.29174 and for final year the mean value was 10.4380 with S.D of 1.32849. (p=0.659)

Subscale 2: Open the discussion: The mean value of this subscale for third year was 9.8926 with S.D of 1.50445 and for final year mean value was 9.9091 with the S.D of 1.62275.(p=0.935).

Subscale 3: Gather information: The mean value for this for third year was 12.8595 with S.D of 1.84077 and for final year mean was 13.5372 with S.D of 1.557078. There was statistically significant difference between mean scores of third year and final year students. (p=0.002)

Subscale 4: Understand the patient's perspective: The mean value of this subscale for third year was 9.4050

with S.D of 1.49766 and for final year mean value was 9.6860.

Subscale 5: Share information: The mean value of this subscale for third year was 12.6860 with S.D of 1.76084 and for final year mean value was 12.8595 with the S.D of 1.83624.(p=0.454)

Subscale 6: Reach agreement: The mean value of this subscale for third year was 8.6860 with S.D of 2.04952 and for final year mean value was 9.1653 with the S.D of 1.77176. (p=0.53)

Subscale 7: Provide closure: The mean value of this subscale for third year was 12.2727 with S.D of 2.17945 and for final year mean value was 12.7521 with the S.D of 1.87653.(p=0.68)

Both final year and third students had highest mean score in subscale 'Gathering Information' (Subscale 3) and lowest mean score of both classes is found in subscale 6, 'Reaching agreement' with the S.D of 1.59704.(p=0.159).

Figure 1 shows that 21% of students from Third year were having scores in the range of 48-72 and 79% students were having score range of 72-96.

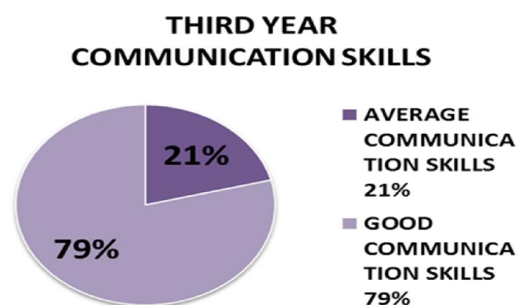


Figure 1: Third year communication skills

Figure 2 shows that 16% students from Final year had scores in the range of 48-72 and 84% students had score range of 72-96.

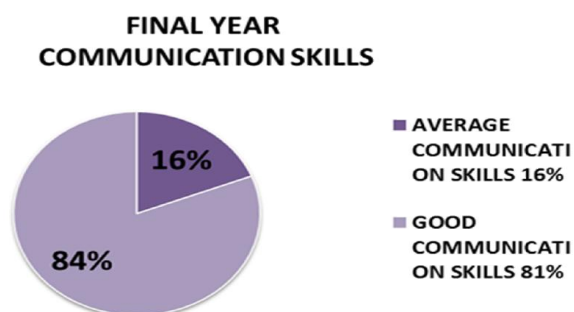


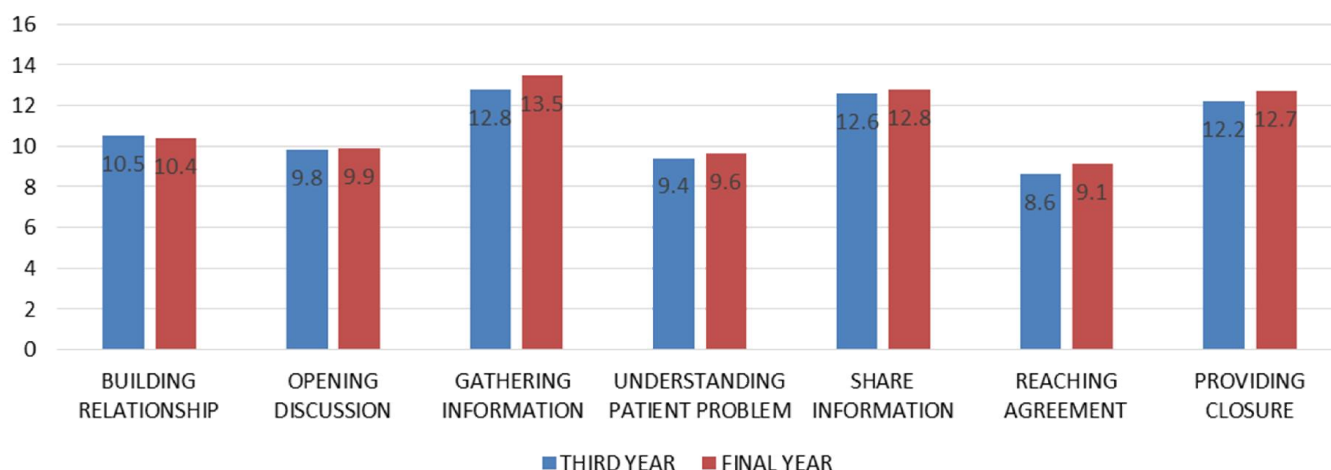
Figure 2: Final year communication skills

Table I: Mean score for assessment of communication skills for third year and final year MBBS students, Kalamazoo subscales*

Subscales (1 to 7)	Third Year Mean \pm SD	Final Year Mean \pm SD	Total Mean \pm SD	P-value
Building relationship	10.5124 \pm 1.29174	10.4380 \pm 1.32849	10.4752 \pm 1.30805	0.659
Opening discussion	9.8926 \pm 1.50445	9.9091 \pm 1.62275	9.9008 \pm 1.56149	0.935
Gathering information	12.8595 \pm 1.84077	13.5372 \pm 1.57078	13.1983 \pm 1.74	0.002
Understanding patient problem	9.4050 \pm 1.49766	9.6860 \pm 1.59704	9.5455 \pm 1.55133	0.159
Share Information	12.6860 \pm 1.76084	12.8595 \pm 1.83624	12.7727 \pm 1.79730	0.454
Reaching agreement	8.6860 \pm 2.04952	9.1653 \pm 1.77176	8.9256 \pm 1.92673	0.53
Providing closure	12.2727 \pm 2.17945	12.7521 \pm 1.87653	12.5124 \pm 2.04357	0.68

* Rider EA, Nawotniak RH, Smith G. Kalamazoo essential elements communication list. A practical guide to teaching and assessing the ACGME core competencies. HC Pro, Inc.; 2007.

COMPARISON OF MEAN SCORES OF EACH SUBSCALE

**Figure 3: Comparison of mean scores of each Kalamazoo subscale for third year and final year MBBS**

Discussion

In this study, a significant proportion of medical undergraduates were found to have good communication skills as they grew in years of their study. Although communication skills of the students increased with seniority but the difference was not significant. This increase might be due to more clinical exposure of final year students with each passing year that makes them more confident. Our results suggest that 84.3% of final year students have stronger grip in gathering information from patients with good communication skills, as compared to 78.5% of third year. A study conducted in USA shows 85% of final year students with good communication skills.

A very important finding of our study was that the students were lacking specificity in 'reaching an agreement with the patient' and 'understanding patient problem'. This may be due to lack of practice and deteriorating professional ethics in students. On the other hand, 'gathering information' from patient showed significant p value ($p=0.002$) depicting better ability for final year as compared to third year. Another study carried out in India shows the same results with significant p value ($p=0.0102$).¹⁶ In our study 'building relationship with patient' showed insignificant difference among two classes (p value 0.6). Another study conducted in University of Porto showed similar findings (p value 0.251).¹⁷

It was mentioned in one study that academic year, gender difference and inadequate training are the main hurdles in development of effective communication skills.¹⁸ According to a study by Bingol et. al, the difference between variables of gender and communication skills averages of students was not statistically significant.¹⁹ This finding is consistent with our study.

Although this study shows that medical students use targeted communication factors inconsistently, these factors can have a significant impact on patient satisfaction. Communication is acknowledged as a crucial skill for health care professionals, but not enough attention is given to teaching communication in medical schools.^{20,21} However, Rawalpindi Medical University as an educational and medical institution provides its students many opportunities to polish their medical as well as communication skills. The reason for this may also be due to the nature of maturity of university students, as they have a sense of responsibility that enables them to evaluate and enhance their communication skills and develop expertise in them.

According to another study, it was perceived that, among the participants, students in the higher age group had higher average of the communication skills. This is consistent with our study which shows that communication skills increase with years of training and academic seniority.²² This means that with the mental flexibility to accommodate attitudes and behaviors, students can face problems positively and solve them effectively. All these experiences make students more proficient in communication and makes them more compassionate towards people around them and interact with them positively, and then they can make companionships and communicate with others. Our results suggest that there is a slight difference in the level of communication abilities according to academic seniority. Our study does not show much difference in subscale 1 and 2. However there is a significant impact on subscale 3. The final year scored higher in the subscale of 'gathering information'. The results of the Subscale 4,5,6 and 7 were not statistically significant. However the lowest score was seen in subscale 6 among both classes. Researchers link these findings to programs that are simultaneously available to all college students, regardless of gender. These results are in accordance with a study for De Azua (2020).²³ However, communication skills are reported to be maintained through the final years of medical courses, especially when experiential learning is used in didactic

methods. Subscales 1,2,4 and 6 need special attention for developing curriculum of undergraduates.

Conclusion

Results suggested that final year students had stronger grip on communication skills, specifically in gathering information from patients, as compared to third year. Evaluation of mean scores for each subscale proposed that both third year and final year students had a major communication skill gap in reaching agreement and understanding patient problem. The results proposed that comprehensive communication training workshops and two-way feedback might be mandatory to raise student's awareness for the various aspects of communication and their interaction.

Recommendations

1. More focus on communication skills is required to achieve better doctor patient relationship, interaction, better diagnosis and reaching to most suitable treatment options.
2. Clinical workshops can be arranged for students to teach, practice and enhance their communication skills
3. Continuous assessment, evaluation, training and feedback might play a strong role in improving communication skills.

Acknowledgments

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