

MEDICAL COLLEGE STUDENT'S PERCEPTION REGARDING CURRENTLY ADOPTED TEACHING METHODOLOGIES AND THEIR EFFECTIVENESS; A CROSS SECTIONAL STUDY FROM RAWALPINDI

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ABSTRACT

Objective: Medical education is based upon innovating teaching strategies to teach more problem-solving attitudes in medical students. Teaching methodologies have evolved over the last few decades with the sole purpose of making teaching and learning interactive for students. This study aimed to evaluate the teaching methodologies and their effectiveness concerning students' perceptions.

Material and Methods: We conducted this cross-sectional study for six months. We included 115 medical students of Rawalpindi through convenient sampling who were willing to participate in the study. We used a self-structured questionnaire for the data collection, and data were analyzed using SPSS Version 24.

Result: In this study, 57% of participants were female, and 43% were male. The majority of the study participants (49%) were from second-year MBBS. Around 91% of students were aware of different teaching methodologies. As per student perception, the most preferred teaching methodology was task-based (27.0%). The most ineffective method for students was self-directed learning (34.78%) and conventional lectures (26.1%). 48.6% of students perceive that small group discussions augment lateral thinking whereas 32.1% consider problem-based learning to broaden thinking.

Conclusion: The findings of the current study suggest that a blend of both conventional lectures and innovative theoretical and clinical teaching methodologies could be effective for teaching medical college students as clear perception regarding different teaching methodologies and their effectiveness exists among these students.

Key Words: Medical Students, Perception, Preferences, Teaching Methods

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INTRODUCTION

Education has always been diverse and dynamic, but with the evolution of new teaching and learning methodologies, there was a significant paradigm shift in general and medical education. With all the latest teaching methodologies, the traditional teacher-centered approaches

have been greatly shifted to more student-centered ones.

Samarakoon et al described teaching as an "ever-evolving progressions particularly in medical school requiring it to modernize continuously"¹. Medical education is evolving daily contributed by the research and the knowledge can only be effectively transferred to the students if teaching aids and the Methodology are effective to the student's level of understanding. In all the medical and dental institutions of Pakistan, both conventional and non-conventional teaching methods are employed. This includes the traditional and most conventional methods of whiteboards and verbal content delivery to most upgrades done including "Overhead Projectors", "multimedia", "PowerPoint" Problem-based learning" etc². The traditional method is still effective for giving face-to-face interaction

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to teachers and students. It helps to understand the content at a more personal level³. Still, many studies revealed that this method is hard to implement in classes where the number of students is drastically high⁴.

Of the many purposes of medical education, the key focus had always been to equip undergraduate medical students with a sense of responsibility as well as stimulate the lifelong exploration and self-learning qualities in them. In the context of Pakistan where the medical curriculum had been consistently uniformed over the decades, the traditional learning and teaching method was in practice. With the evolution of medical education, over the past few years, medical colleges had started incorporating new techniques and teaching and learning methodologies⁵.

Modern medical education is based mostly on hands-on practical skills. In Pakistan, various hands-on workshops are arranged by private and public medical and dental academies to polish the skills of young doctors and to freshen up their knowledge. At the same time, group discussions, and PBLs are also an effective ways to make the learning more interactive as students get a chance to openly discuss their queries and confusions with the teacher or demonstrator⁶. The ultimate aim of all the teaching methodologies is always to uplift students' mental capacity and to equip them with the complexity of the medical field.

This study aimed to evaluate the teaching methodologies and their effectiveness in relation to the student's perception. This study provides baseline evidence for a better understanding of the need of today's medical students.

MATERIAL AND METHODS

We conducted this descriptive cross-sectional study at different medical colleges of Rawalpindi. Those medical students who were available and willing to participate in the study were included. The sample size was 115, which was calculated by using openepi.com. at 95% confidence level and absolute precision of 4% and taking the 95% of the students in favor of sizeable interactive group lectures⁷.

A self-structured questionnaire was piloted on 74 students who were not included in the final study. The Cronbach alpha was 0.743. The questionnaire was divided into two sections. Section 1 dealt with the study participants' socio-demographic profile, including name, age and gender. Section 2 dealt with the students' perceptions of different teaching methodologies.

Informed consent was sought from all the study participants. The collected data was entered into SPSS Version 24 and was thoroughly checked for any missing entries. Descriptive analysis for frequency and percentages was conducted.

RESULTS

The age of participants ranged from 17 to 24 years having a mean age of 20.25 ± 1.59 years. Forty-three percent of study participants were male and fifty-seven percent of study participants were female. Twenty-five percent of study participants were from the first year, 49% from the second year, 21% from the third year, 4% from the fourth year, and 1% from the final year. Ninety-one percent of study participants were aware of different teaching methodologies employed in their colleges while nine percent were not aware of different teaching methodologies. Hundred percent of study participants were taught by conventional lectures, 91% had exposure to problem-based learning, 89% of them were taught by task-based learning, 95% by self-directed learning, 83% were taught by hands-on practical skills, 46% percent by role-playing, 77% by case-based learning, eighty-five percent by small group discussion.

According to study participants, the most preferred teaching methodologies (Table 1) were task-based (27%) and small group discussion (24.3%). The teaching methodologies which kept them more attentive and engaged (Table 2) were task-based learning (21.7%) and case-based learning (20.9%). The most ineffective teaching strategies (Table 3) according to study participants were self-directed learning (34.78%) and conventional lectures (26.1%). The perceptions regarding different theoretical and clinical teaching methods are presented in table 4.

Table 1: Preferred Teaching Methodology

Preferred Teaching Methodology	Frequency (n)	Percentage (%)
Small Group Discussion	28	24.3%
Conventional Lectures	5	4.3%
Hands-On Practical Skills	12	10.4%
Role play	11	9.6%
Problem-Based	3	2.6%
Case-Based Learning	14	12.2%
Self-Directed Learning	11	9.6%
Task Based	31	27.0%
Total	115	100.0%

Table 2: Perception Regarding Most Engaging Teaching Methodology (n=115)

Most Engaging Teaching Methodology	Frequency (n)	Percentage (%)
Small Group Discussion	16	13.9%
Case-Based Learning	24	20.9%
Role Play	13	11.3%
Task-Based Learning	25	21.7%
Conventional Lectures	5	4.3%
Hands-On Practical Skill	18	15.7%
Problem Based Learning	12	10.4%
Self-Directed Learning	2	1.7%
Total	115	100.0%

Table 3: Most ineffective Teaching Methodology (n=115)

Most Ineffective Teaching Methodology	Frequency (n)	Percentage (%)
Conventional Lectures	30	26.1%
Task-Based Learning	6	5.2%
Small Group Discussion	8	6.95%
Hands-On Practical Skills	5	4.37%
Self-Directed	40	34.78%
Role play	6	5.2%
Problem-Based	12	10.43%
Case-Based Learning	8	6.9%
Total	115	100.0%

Table 4: Perception of Students Regarding Theory and Clinical Teaching Methods (n=115)

Teaching methods	Perception	n (%)
Small Group Discussion	Augmentation of lateral thinking	56 (48.6%)
	Better student interactions	59(51.3%)
Problem Based Learning	Broadens thinking	37 (32.1%)
	Freedom to voice /opinion	33 (28.6%)
	Better student-teacher interaction	17(14.7%)
	Positive competitive spirit	28(24.3%)
Conventional Lectures	Better understanding of the subject	29(25.2%)
	Opportunity for active learning	25(21.7%)
	Effective utilization of time	16 (13.9%)
	Informative	45 (39.1%)
Perception Regarding Clinical Teaching Methods		
Hands-On Practical Skills	Improves practical skills	42(36.5%)
	Helps in gaining more practical experience	39(33.9%)
	Boosts the confidence	34 (29.5%)
Case-Based Learning + Bed side Teaching	Develops Clinical skills	46(40.1%)
	Improves communication skills	32(27.8%)
	Amalgamates both theoretical and clinical aspects to learn effectively	37(32.1%)

DISCUSSION

This cross-sectional study was conducted to find out the perception of students about different teaching methodologies in medical colleges of Rawalpindi. An overwhelming proportion of the medical students were aware of various teaching methodologies. In this study, 91% of students had been experienced being taught by problem-based learning and 100% had experienced traditional learning. Across the globe, the process of learning is based on the active strategy of delivering any lecture in a way to enhance the learning and professional skills of the learner⁸. The concept of problem-based learning for medical and dental students was to promote students to identify the problem areas and to search for possible solutions⁹. It was actively incorporated in different medical institutes as a part to make students more active and also to enhance cognitive skills by developing the core values like teamwork, problem identification, solution probing, communication skills, and active decision-making practices¹⁰. As per the results of this study, the study participants had a perception that task-based learning and discussion sessions in case-based learning keep them more attentive. Various studies had been conducted in past to evaluate the effectiveness of teaching methodologies in this regard¹¹.

Another highlighting element of preferring discussion-based Methodology is that it gives students a medium for socialization. The preferred method cited in the results of this specific study does point out the fact this attentiveness ultimately contributes to the career progress of the students¹². As per the results of this specific study, the study participants responded to having a task-based method as their preferred teaching methodology. Task-based teaching methodology encompasses the tasks assigned by the teacher and by the amalgamation of different activities, the tasks are completed and the possible solutions to the tasks are designed. In recent times this task-based learning is considered to be a crucial element for medical education as history taking, diagnosis and drug prescription is one of the key components of any medical practice. Such task-based learning methodologies equip the students with real-life task handling¹³.

At the same time, task-based learning stated as the preferred teaching methodology by the respondents¹³. The striking feature of task-based learning and problem-based learning is mastering the competencies of students^{14,15}. Since this study is conducted in recent times, the medical students currently enrolled in different years in medical colleges do understand the dynamics of advancement in the medical field.

It is also projected in the results of this study that the medical student participating in this study reported self-directed learning as the most ineffective teaching and learning methodology. However, these results are quite

contradictory to studies conducted in other parts of the world where self-directed learning was successfully implemented and adopted by different medical students and its impact was projected in their results^{16,17}.

One possible reason for the student not preferring this self-directed learning in our part of the world is that the modalities attached with self-directed learning, including facilitated self-directed learning, are yet to be probed here. Since the medical curriculum in Pakistan is emerging by incorporating new teaching and learning methodologies, students need to be guided about the details of all new such methodologies.

CONCLUSION

The findings of the current study suggest that a blend of both conventional lectures and innovative theoretical and clinical teaching methodologies could be effective for teaching medical college students as clear perception regarding different teaching methodologies and their effectiveness exists among these students. However, there is a need for in-depth probing into evaluating the perception associated with their academic performance and also to equip medical students about the methodologies they dislike and prefer.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under

- Mahsood N:** Concept, Design, and Proofreading
Mehboob A: Acquisition and critical review
Alam AN: Analysis and interpretation of data
Kibria Z: Data collection, Final approval
Aleem S: Data collection, Final approval

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.