



ORIGINAL ARTICLE

Questionnaires based evaluation of teaching and learning methods among MBBS, BDS and Nursing students.

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ABSTRACT... Objective: To compare the conventional ways of teaching to new teaching methodologies thus finding their efficacy. It also highlights the significance of incorporating technology into teaching thereby creating a rich learning experience for students. **Study Design:** Cross-sectional Survey. **Setting:** Different Medical and Nursing Colleges and Universities of Punjab, Pakistan; Faisalabad Medical University Faisalabad, University Medical and Dental College Faisalabad, Ameer-uddin Medical College Lahore, Nishtar Medical and Dental College Multan, Shareef Medical and Dental College, Continental Medical College Lahore. **Period:** June 2020 to August 2020. **Material & Methods:** Was conducted amongst 1600 medical, dental and nursing students from various medical and dental colleges across Pakistan. A questionnaire was circulated among students after briefing them about the objective of the study. **Result:** Out of 1600, 816 were MBBS students, 715 were BDS and 69 were nursing students. About various teaching methods, 53% in MBBS, 56.78% in BDS and 30.43% of nursing students were aware about new teaching methodologies. Tutorials were least known by MBBS students, online classes for BDS students whereas both methods of teaching were least popular amongst nursing students. A significant percentage of students were more in favor of group discussion as an effective method of teaching. **Conclusion:** This study concluded that student-centered learning should be focused on and new technologies should be incorporated in order to make medical education more interactive and interesting.

Key words: Learning Methods, Teaching Modalities, Online Lectures.

INTRODUCTION

Perception of optical and audial clinical findings is a component of medical student's competency that a quality curriculum should teach, assess, and ameliorate.¹ The conventional methods used in medical schools are burdened with so much information, that the students' creative and problem-solving skills are restrained to an extent of bookish knowledge only. The lecture format has been the most frequently used method of teaching for a long time.² This teacher-oriented lecture approach was the main type of learning for years. As the new era has developed new technologies and visual aids such as slides and PowerPoint presentations, the approach of teaching the medical students has greatly been directed towards boasting the medical students

to indulge in their studies.³

In recent years, a great paradigm shift has been observed in the field of education in general and medical education in particular. New concepts and themes have come up in the field of medical education. Traditional teacher centered approach is gradually being replaced by a student centered learning. Teachers who conceive teaching as simple transmission of knowledge use content/teacher centred approaches, and teachers who take teaching as facilitating learning use learner centred approaches.

As per the demand of new generation, there has been a shift in methods of both general and medical education.

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Teaching methodologies have evolved due to the new concepts and themes that have changed the traditional teacher centered approach to a student-centered learning to involve students in learning more effectively.⁴ The service to the patients is the role of the entire faculty including doctors, dentists and paramedics. The foremost hurdles for the better medical education may be lack of training facility to the staff and the students, ignorance towards the training of the students and accountability of both the supervisors and the authorities. Pakistan Medical Commission (PMC) is responsible for imparting quality education in the young medical core in Pakistan.

The general objective of the undergraduate medical curriculum as specified by the Pakistan Medical and Dental Council (PMDC) is to provide com-passionate, general practice, community-oriented doctors who are committed to manage common health problems of the people in a scientifically sound and cost-effective manner while using appropriate technology and a holistic approach.

The main intention of the undergraduate medical curriculum as recommended by the Pakistan Medical Commission (PMC) is to train such compassionate practioners, who are not only able to diagnose and treat general health issues of on the community, but are also able to deliver such comprehensive services at a very cost effective rate using appropriate technology.⁵ This can be achieved by providing quality teachers who are trained in the first place up to the mark and utilize numerous teaching methods to produce reliable and competent medical staff who can well manage the critical scenario.

In the contemporary age, the information and communication technology has transformed the medical teaching and learning with multiple resources and data.⁶ The advancement in the technology has made it very easy to teach the students about the critical scenarios based on the real-life disease in the lecture theater. The feedback of the students of all the respective fields of medical was the best way to understand and the make improvement in the deficient areas

of medical teaching methodology and it is also very important for further development of medical education in the near future.⁷

This aim of the study was to find out how effective are these novel methods and how are they effective when compared to old traditional methodologies among MBBS, BDS and Nursing students; secondly the preferred timing and sessions for classes and the quality of the teacher. Thirdly we intended to integrate the latest inventions into teaching and learning methodologies to devise a bountiful learning experience for medical undergraduates and faculty.

MATERIAL & METHODS

It was a cross-sectional survey and was conducted in different medical and nursing colleges and universities of Punjab, Pakistan; Faisalabad Medical University Faisalabad, University Medical and Dental College Faisalabad, Ameer-ud-din Medical College Lahore, Nishtar Medical and Dental College Multan, Shareef Medical and Dental College, Continental Medical College Lahore out of which about 1600 students participated. The questionnaire was circulated among students of different colleges and universities. The online form was filled and submitted by students. A briefing about the objective and purpose of the study was provided to all the students along with the questionnaire.

Data was entered in Statistical Package for Social Sciences (SPSS) version 25 and considered for descriptive analyses. Chi-square test of independence was also applied.

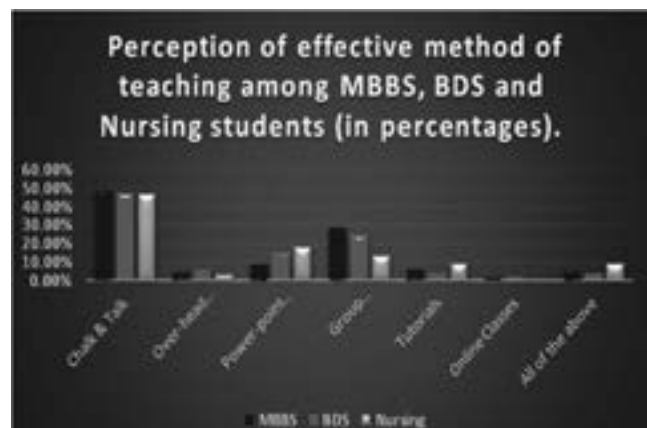
RESULTS

About sixteen hundred students were enrolled in this study out of which 816 were MBBS students, 715 were BDS students and about 69 were nursing students. MBBS students were in majority followed by BDS and then Nursing students. The students of this study were mainly between 18 to 23 years of age and majority of them were female.

In response to the question regarding awareness about various teaching methods, 53.0% in MBBS, 56.78% in BDS and about 30.43% of nursing

students were aware about all the teaching methodologies of modern medical education out of which tutorials were least known by MBBS students, online classes were not popular among BDS students while online classes, tutorials and overhead projections were not known or least popular among Nursing students.

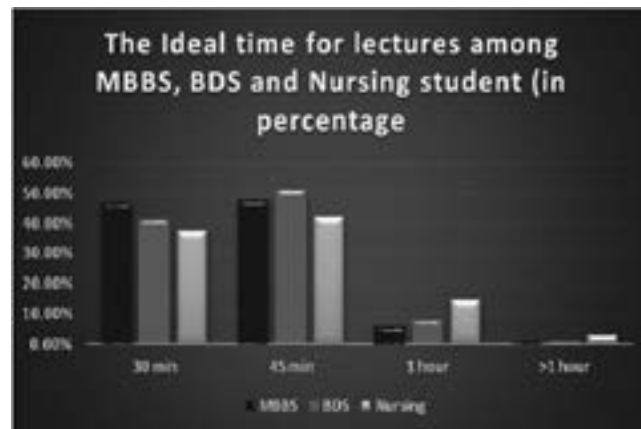
Two of the best understanding methods were chalk and talk and group discussion among various teaching methods. A significant percentage of students among MBBS, BDS and Nursing concurred that the group discussion is more effective method of teaching.



Although majority considered chalk and talk method one of the most understanding and efficient method of teaching but still it was considered the most time consuming method among MBBS students and BDS students while group discussion was concurred the most time consuming among nursing students ($p =$ significant association). Furthermore, power point presentations made lose interest of MBBS and BDS students while tutorials were the ones which mostly made lose interest among Nursing students ($p =$ significant association).

In response to ideal time of the lecture, 45 minutes were preferred by all the three groups of the study. Among the three disciplines of study, morning sessions were considered the best time to get the best concentration during the lecture and least was evening session among BDS and MBBS students while afternoon sessions among nursing students, but was not statistically significant. MBBS, BDS concurred that basic

purpose of attending lecture was attendance while some of the other MBBS and BDS students gave view of better understanding the lecture as the purpose of their attending lectures. While among nursing better understanding and leading to the questions in exams were concurred.



MBBS and BDS students agreed that the teacher should have the ability to teach the topic while Nursing students concurred that attitude of the teacher towards the students and personality matters the most. A strict environment in the class was despised among all.

DISCUSSION

The research is carried out to understand the loose ends of the teaching methodologies among the medical students as they can help in bringing betterment in the interactive education and learning of the students and also utilize visual and auditory aids to increase the horizon of teaching.

In our study we learned that despite being time consuming, students of all the three disciplines of medical education preferred chalk and talk' and group discussion over power point presentation and online classes. Similarly, in the study carried out by Baxi et al⁸ it was seen that in chalk and talk method, the undergraduates were active learner and were a cut above capable with the momentum of the instructor. So, Chalk and Talk method drives more attention and also keeps the class more attentive.

		MBBS 816	BDS 715	Nursing 69	P-Value
Awareness about various teaching method/ methods	Chalk & Talk	27.94%	26.71%	43.47%	0.405
	Over-head Projection	3.06%	1.11%	2.89%	
	Power-point Presentation	10.04%	9.09%	8.69%	
	Group Discussion	3.18%	4.61%	5.79%	
	Tutorials	0.73%	1.39%	2.89%	
	Online Classes	1.96%	0.27%	2.89%	
	All of the above	53.06%	56.78%	30.43%	
Out of these, in which method of teaching, the student gets best understanding of the topic	Chalk & Talk	45.22%	44.05%	49.27%	0.157
	Over-head Projection	5.39%	5.03%	2.89%	
	Power-point Presentation	8.21%	16.50%	14.49%	
	Group Discussion	31.98%	24.47%	30.43%	
	Tutorials	5.26%	6.57%	0%	
	Online Classes	0.024%	1.39%	0%	
	All of the above	3.67%	1.95%	0%	
Out of these methods, in which type of teaching did you get loose interest in the topic?	Chalk & Talk	14.58%	14.26%	10.14%	0.000*
	Over-head Projection	18.38%	15.80%	14.49%	
	Power-point Presentation	37.13%	31.88%	24.63%	
	Group Discussion	2.94%	2.79%	11.59%	
	Tutorials	6.86%	6.71%	31.88%	
	Online Classes	17.15%	24.19%	4.34%	
	All of the above	2.94%	4.33%	0%	
Out of these, which is more time-consuming method of teaching, according to you?	Chalk & Talk	34.19%	28.25%	13.04%	0.000*
	Over-head Projection	8.82%	9.09%	5.79%	
	Power-point Presentation	18.25%	15.52%	14.49%	
	Group Discussion	9.55%	11.18%	37.68%	
	Tutorials	6.61%	8.95%	5.79%	
	Online Classes	19.11%	24.19%	20.28%	
	All of the above	3.43%	2.79%	0%	
Which is more effective method of teaching	Chalk & Talk	48.89%	47.69%	46.37%	0.486
	Over-head Projection	3.67%	5.31%	2.89%	
	Power-point Presentation	8.21%	14.26%	17.39%	
	Group Discussion	28.06%	24.75%	13.04%	
	Tutorials	5.26%	3.21%	8.69%	
	Online Classes	1.47%	1.39%	0%	
	All of the above	4.41%	3.35%	8.69%	
*SIGNIFICANT ASSOCIATION					
Table-I					

The study done by Pratima Kosheewara⁹ showed that small group discussions was considered best by the MBBS and nursing students and BDS students preferred Power-Point presentations. Another study done by Mohen et al¹⁰ & Banerjee et al¹¹ shows that chalk and board method were most preferred method among the medical students for best teaching aid. From this it is inferred that the active teacher participation by explaining thing on board one by one and getting students involve in the lectures boost up the

energy level and learning skills of the students apart from continuous reading from the slide show and not utilizing student's capabilities to conclude the topic. While study conducted by costa et al.¹² observed that in undergraduate students' didactic lectures were not popular as the students were passive listeners leading to lose of interest in the lecture as compare to small discussions among the teacher and students and students themselves.

Questions		MBBS 816	BDS 715	Nursing 69	P-Value
What should be the ideal time of a lecture?	30 min	46.44%	40.97%	37.60%	0.002
	45 min	47.30%	50.90%	42.02%	
	1 hour	5.51%	70.55%	14.49%	
	>1 hour	0.73%	0.55%	2.89%	
In which sessions do you get best concentration during the lecture?	Morning Sessions	81.617%	81.39%	69.56%	0.097
	Afternoon Sessions	10.7%	9.79%	11.59%	
	Evening Sessions	7.59%	8.81%	15.94%	
What is the basic purpose of attending lectures?	For attendance	42.15%	39.86%	5.79%	0.053
	For better understanding of lecture	30.75%	37.06%	42.02%	
	To get lead about the questions, usually asked in the exam	10.66%	9.09%	31.88%	
	Lecture is a mixture of knowledge from multiple books	15.93%	12.86%	17.39%	
	you like the teacher	0.49 %	1.11%	0%	

Table-II

Questions		MBBS 816	BDS 715	Nursing 69	P-Value
What should be the quality of a best teacher?	Having ability to teach	403	369	17	0.865
	Rapport with the students	27	36	4	
	Having knowledge of the subject	90	100	12	
	Attitude/ personality of the teacher	132	87	22	
	Keep a lenient/ interactive atmosphere in class	156	115	12	
	Keep a strict atmosphere in class	6	8	0	

Table-III

In response to ideal time of the lecture, about 46% of the students of all three medical disciplines preferred 45 mins. Similarly, in the study done by Pratima Kosheewara⁹ showed that > 45 % students from BDS and nursing disciplines preferred 45 minutes as an ideal time for lecture while 30 minutes was preferred by MBBS. Likewise, study carried out by Noreen et al¹³ among MBBS students in Lahore, Pakistan, deduced that 54% of the MBBS students preferred 30 minutes as an ideal time for study. Short lectures were interesting and kept the students more involved in the study.

In our study 61.5% of MBBS and BDS had a sole purpose of attendance in attending lectures while among Nursing 42.02% of students wanted the better understanding of lectures. While, in Pratima Kosheewara⁹ study 47% students from all disciplines stated that they attended the lecture for better understanding the topic. Similarly, Dhaliwal

et al¹⁴ found similar correlation between higher attendance with better examination performance while contradictory result observed by Hammen et al¹⁵ between lecture attendance and course grades.

Students learn from the teachers and the quality of teachers is the most important thing for the better development of students. The ability of the teacher to make the students learn a topic in a better way along with a good attitude towards the class was agreed by the students of MBBS, BDS and nursing. The quality of teacher is always directly proportional to excellent students and better examination as well as the behavioral result Pratima Kosheewara.⁹

CONCLUSION

This study has concluded that teacher-oriented methods of teaching should be left behind and more of the involvement of students in







their education should be done for its better accomplishment. New technologies should be utilized in order to make the medical education more interactive, interesting and understandable and to achieve broad horizons of medical professional under a roof. Making pre- and para-clinical subject clinical oriented with the involvement of case presentation, small group discussion with the incorporation of audio-video aid for the benefit of our future doctors, dentists, and nurses.

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2	Muhammad Adnan Akram	Drafting.	
3	Farrukh Aqil	Revisited Critically.	
4	Maria Khan	Data analysis.	
5	Zuhha Nawaz	Data analysis.	
6	Arooj Fatima	Data analysis.	
7	Tehreem Muzammil	Drafting.	