

Assessment of Teaching Learning Methods and Different Preferences to Increase Quality and Attendance in Learning Among Undergraduate Medical Student - A Cross-Sectional Analysis

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ABSTRACT

Introduction: The educators or the teachers are one of the vital parts of our community, but nowadays teaching the students is demanding and stressful job. Didactic lectures, the gold standard and the most preferred method of teaching where students exposed to large amounts of information making them difficult to retain, remember and interpret with one way communication. That's why medical educators across the world and in India are reforming their student curriculum and use different teaching-learning strategies, to cope up and adopt with the present digital world students.

Material and Methods: Present cross sectional analytical study was conducted in MBBS students by self administered pre designed questionnaire. Total 260 willing students who completely filled the self-administered questionnaire was included in the study.

Results: 40.39% students were of age group 18-19 and 54.23% of 20-21 years age group. 56.92% were female and majority of students reside in Hostel (75.39%). While ask about most effective method, 77.69% preferred Power Point presentation. 78.46% admits that morning teaching session was best for concentration. 71.15% prefer problem-based teaching learning method and likes answering questions asked by teachers (69.23%).

Conclusion: In today's world, teaching and learning both are undergoing dynamic changes as paradigm is shifting from traditional teaching learning methods to more advanced interactive and problem-based approach of teaching. As uses of technology is increasing, institutes should also incorporate and updates the newer methods of teaching learning to increase interest and understanding of students.

Keywords: teaching learning, newer methods, problem-based teaching

INTRODUCTION

The educators or the teachers are one of the vital parts of our community, but nowadays teaching the students is demanding and stressful job, particularly when working with medical students. It can be hard to teach with retained focus, encouraging active participation with good ratings or scores in internal and external exams. Teaching medical students can have its own challenges with recent change in pattern of medical education.¹

Didactic lectures, the gold standard and the most preferred method of teaching and learning practice depends on the instructor, who teaches large information with minimal student engagement, and are typically conducted in a one way and an instructor centered classroom. Students are exposed to large amounts of information making them difficult to retain, remember and interpret with one way communication.²

That's why medical educators across the world and in India are reforming their student curriculum and use different teaching-learning strategies, to cope up and adopt with the present digital world students.³ Introduction of different teaching methods coupled with advances in technology, unique characteristics and advantages help us to keep up with the evolving medical sciences and maximize learning outcomes. These methods possesses unique interactive characteristics to influence effective learning outcomes.⁴

Successful medical teaching requires to address students' needs and to understand the various learning styles and approaches, accomplished by creating an optimal teaching learning environment and utilizing a diverse teaching methods and styles.⁵ Teaching strategies uses multiple teaching methods to deliver a broader set of learning outcomes and to make it more effective, teaching should adopt the activities such as feedback, reflection or team-based activities.⁶

Delivering effective education in medical sciences is a complex process as these graduates prepare for the patient care and the main goal of medical education is to empower and educate personnel who have the sound knowledge, polite attitudes and medical skills necessary to maintain and promote good health in the community.⁷

So, it becomes utmost important to utilize multiple alternative teaching and learning strategies which are well validated and applicable to a typical classroom setting in medical schools, and effective in teaching and learning that best meets the specific needs of the students.

The CBME guidelines enabled all departments and medical teachers to incorporate a variety of teaching learning aids aimed for didactic lectures including PowerPoint, Whiteboard, overhead projector either alone or in combination, small group discussion, seminar, tutorials, demonstrations etc.⁸

The objective of the study is to find the preferences of different teaching-learning method among medical students, various factors influencing their absenteeism and to analyze the student's view for improving attendance and quality of the classes.

MATERIALS & METHODS

Present cross sectional analytical study was conducted by the department of Community Medicine in the tertiary Care Medical College American International Institute of Medical Sciences, Bedwas, Udaipur. The study was conducted for period of four months in MBBS professional academic year's students to collect the data by self administered pre designed and tested questionnaire. Study population comprises all the medical students studying in 1st, 2nd and 3rd MBBS year who were willing to participate in the study and completely filled the proforma. The students not willing or had not fully completed the self administered pre designed questionnaire were excluded from the study. After getting

permission from principal and ethical committee to conduct the study, the students were subjected to the questionnaire and filled forms were collected from all the three academic year students after informing and explaining them about the objectives of the study to increase the honest response from the students. Total 260 willing students who completely filled the self-administered questionnaire were included in the study and data was subjected to the analysis.

STATISTICAL ANALYSIS

Statistical analysis is done by transforming the data into MS EXCEL worksheet and SPSS is used to extract meaningful outcome

and subjecting it to draw percentages, mean and deviations. Chi square test is used to draw the p value which is <0.05 as significant.

RESULT

Study was implemented in MBBS students of all three academic year students; the data was collected and found that 40.39% students were of age group 18-19 and 54.23% of 20-21 years age group. 56.92% participants were female students and rest 43.08% were male students. Majority of students reside in Hostel (75.39%) followed by 15% of local city students resides in own residence.

Table 1: Socio-demographic characteristics of study participants

Variables		Frequency	(%)
Age group (years)	18-19	105	40.39
	20-21	141	54.23
	22-23	14	5.38
Gender	Male	112	43.08
	Female	148	56.92
Residence	Own Resident	39	15
	Hostel	196	75.39
	Paying guest	05	1.92
	Rented	20	7.69
Academic Year	1 st Year	91	35
	2 nd Year	77	29.61
	3 rd Year	92	35.39

Students were subjected to answer about awareness and preferred method of teaching shows that most of the students were well aware about different teaching learning methods. While ask about most effective method, 77.69% preferred PPT followed by demonstration (72.69%) and group discussion (68.08%). Best understanding

also follows similar trend as 77.69% prefer PPT, 65.38% demonstration and 61.15% group discussion as preferred method having high understanding of the topic. But 26.15% lose interest in PPT, 15% in tutorials and 14.23% in chalk and talk method of teaching and learning.

Table 2: Perception of preferred method and media of teaching by medical students

Variables (Multiple choice)	1 st MBBS (91)		2 nd MBBS (77)		3 rd MBBS (92)		Total (260)		P value
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Awareness about Teaching Learning Methods									
Chalk and talk	74	81.32	39	50.65	28	30.43	141	54.23	0.0000003
Power Point Presentation	85	93.41	63	81.82	89	96.74	237	91.15	0.05
Group Discussion	66	72.53	70	90.91	72	78.26	208	80.00	0.16
Tutorials	63	69.23	71	92.21	78	84.78	212	81.54	0.04
Demonstration	54	59.34	62	80.52	75	81.52	191	73.46	0.02
Most effective method									
Chalk and talk	73	80.22	40	51.95	10	10.87	123	47.31	0.00000004

Power Point Presentation	61	67.03	56	72.73	85	92.39	202	77.69	0.007
Group Discussion	57	62.64	49	63.64	71	77.17	177	68.08	0.057
Tutorials	47	51.65	33	42.86	34	36.96	114	43.85	0.173
Demonstration	62	68.13	52	67.53	75	81.52	189	72.69	0.07
Best understanding of the topic									
Chalk and talk	68	74.73	38	49.35	09	9.78	115	44.23	0.00000004
Power Point Presentation	71	78.02	55	71.43	76	82.61	202	77.69	0.34
Group Discussion	48	52.75	43	55.84	68	73.91	159	61.15	0.034
Tutorials	30	32.97	38	49.35	37	40.22	104	40.00	0.036
Demonstration	56	61.54	47	61.04	67	72.83	170	65.38	0.147
Loose interest in the topic									
Chalk and talk	5	5.49	12	15.58	20	21.74	37	14.23	0.046
Power Point Presentation	28	30.77	19	24.68	21	22.83	68	26.15	0.00004
Group Discussion	8	8.79	10	12.99	14	15.22	32	12.31	0.44
Tutorials	3	3.30	14	18.18	22	23.91	39	15.00	0.002
Demonstration	5	5.49	16	20.78	6	6.52	27	10.38	0.24

Students were subjected to the questions to increase their interest, quality of lecture and improvement in attendance, the response were 40.77% were happy with 1 hour teaching but 39.62% in favour of 45 minutes teaching session. 78.46% admits that morning teaching session was best for

concentration. When asked about purpose of attending lectures, 55.77% respond with for better understanding of topics, 37.67% for important questions related to the topic and 29.23% for getting different sources for understanding same topic.

Table 3: Suggestions of students about increase quality and attendance in learning

Variables	1 st MBBS (91)		2 nd MBBS (77)		3 rd MBBS (92)		Total (260)		P value
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	
Ideal time of lecture									
30 min	9	9.89	2	2.60	26	28.26	37	14.23	0.07
45 min	37	40.66	39	50.65	25	27.17	101	38.85	0.33
1 hour	42	46.15	36	48.05	27	29.35	105	40.38	0.08
> 1 hour	3	3.30	0	0.00	14	15.21	17	6.54	0.06
Best concentration in session									
Morning	85	93.41	72	93.51	47	51.09	204	78.46	0.000002
Afternoon	5	5.49	3	3.90	42	45.65	50	19.23	0.000006
Not at all	1	1.10	2	2.60	3	3.26	6	2.31	0.194
Purpose for attending lectures									
For attendance	24	26.37	12	15.58	28	30.43	64	24.62	0.30
Better understanding of the topic	56	61.54	45	58.44	44	47.83	145	55.77	0.11
To get lead about the questions; that usually asked in examination.	31	34.07	34	44.16	33	35.87	98	37.69	0.24
Lecture is a mixture of knowledge from multiple books.	21	23.08	22	28.57	33	35.87	76	29.23	0.07
You like the teacher	25	27.47	23	29.87	22	23.91	60	23.08	0.41
Qualities of a teacher									
Having ability to teach	43	47.25	56	72.73	26	28.26	125	48.08	0.19
Good rapport with the students	15	16.48	12	15.58	17	18.48	44	16.92	0.31
Having knowledge of the subject	60	65.93	46	59.74	34	36.96	140	53.85	0.06
Personality of the teacher	23	25.27	11	14.29	24	26.09	58	22.31	0.36
Enthusiasm for teaching	44	48.35	46	59.74	35	38.04	125	48.08	0.26

Prefer problem-based teachings in the class									
Yes	66	72.53	57	74.03	62	67.39	185	71.15	0.36
No	13	14.28	14	18.18	18	19.57	45	17.31	0.17
Not sure	12	13.19	6	7.79	12	13.04	30	11.54	0.27
Like asking questions by the teachers									
Yes	61	67.03	51	66.23	68	73.91	180	69.23	0.28
No	18	19.78	16	20.78	17	18.48	51	19.62	0.47
Not sure	12	13.19	10	12.99	07	7.61	29	11.15	0.22

Qualities of teachers, students like most were having knowledge of subject (53.85%), enthusiasm for teaching (48.08%), and ability to teach (48.08%). Most students (71.15%) prefer problem-based teaching learning method and likes answering questions asked by teachers (69.23%).

DISCUSSION

The study on perception of preferred teaching learning methods and different preferences to increase quality and attendance in learning among undergraduate medical student was conducted amongst 260 medical students of different professional years.

In our study, most of the students were well aware about different teaching learning methods.

The study conducted by Koshewara P⁹ et al. at Indira Gandhi Medical College, Shimla, Himachal Pradesh, India. In total 359 students found majority of students were well aware about various types of teaching methods. In our study, while ask about most effective teaching learning method, 77.69% preferred Power Point lecture followed by demonstration (72.69%) and group discussion (68.08%). Studies by Joshi KP¹⁰, Shabnam S¹¹ and Shilpa S¹² in their studies found that students mostly preferred PPT lectures over other means of teaching learning methods.

But in contrary, Koshewara P⁹ found group discussion is the more effective methods of teaching while Jana PK¹³ found demonstration (81.3%) as an ideal teaching method, followed discussion (64.2%), chalk and talk method (58.5%), and lecture classes (35.3%). Study by Papanna KM¹⁴, Black board (51.4%) was the most preferred

teaching aid followed by Power point presentation (40.9%). Another study by Sarkar TK¹⁵, the largest group of students i.e., 167 (80.68%) opted for practical demonstration, 110 (53.14%) - chalk and talk, 87 (42.03%) - discussion, 76 (36.71%) – lecture. Similar results were by Singh A¹⁶ where demonstration was the most liked method of teaching by the students as in the pre-test 59.4% students liked it and in the post-test 71.4% liked it. Best understanding also follows similar trend as 77.69% prefer PPT, 65.38% demonstration and 61.15% group discussion as preferred method having high understanding of the topic. But 26.15% students lose interest in PPT lectures, 15% in tutorials and 14.23% in chalk and talk method of teaching and learning. Koshewara P⁹ found that for best understanding upon the topic; group discussion was most preferable among MBBS (51.56%) and chalks and talk method of teaching leads the majority of students to lose interest in the topic which was observed 31.35% in MBBS students.

Students were subjected to the questions to increase their interest, quality of lecture and improvement in attendance, the response were 40.77% were happy with 1 hour teaching but 39.62% in favour of 45 minutes teaching session. Similarly in Shilpa S¹² study, 76(58.4%) opined that 45 minutes is as Ideal duration of lecture while 40 (30.7%) students preferred a 60 minutes class. But Koshewara P⁹ found ideal time of the lecture, 48.44% MBBS student preferred 30 minutes and 42.9% 45 minutes of teaching.

In our study, 78.46% admits that morning teaching session was best for concentration. Similar trends were found by other studies also.^{9, 12}

The purpose of attending lectures in our study, 55.77% students were for better understanding of topics, 37.67% were to get important questions related to the topic and 29.23% for different sources for understanding same topic. Similarly, 67.19% MBBS students concurred that they attend lectures for the better understanding of the topic and 17.19% MBBS students concurred that they attend the lecture because it was a mixture of knowledge from multiple books.⁹ Qualities of teachers, students like most were having knowledge of subject (53.85%), enthusiasm for teaching (48.08%), and ability to teach (48.08%). Other similar studies show 41.84% prefer having knowledge of the subject as important quality of a good teacher followed by 31.63% students agreed that the teacher should have the ability to teach the topic.⁹ Jana PK¹³ also had similar results as good knowledge about the topic (52.08%) is important quality of teacher. In our study, problem-based teaching learning method was most preferred method (71.15%) and 69.23% students likes answering questions asked by teachers. Similarly study by Singh A¹⁶ shows majority (42.8%) of the students chose Problem Based Learning as a reliable teaching method. Likewise, Ahmed SS¹⁷ also found problem-based learning's (PBL) were preferred by 80% of students and asking questions to a student in a class by a teacher was preferred by 56.2% of total students.

CONCLUSION

In today's world, teaching and learning both are undergoing dynamic changes as paradigm is shifting from traditional teaching learning methods to more advance interactive and problem-based approach of teaching. In our study, we found that students are following the most commonly used teaching methods but also the approach towards newer learning methods are also highly positive. Use of problem based and group discussion are gaining more attentions as interactive means of learning.

Though in coming future, teaching learning methods may be more advance, but learning with basic morale's is also very important to shift from today's learning to more advances video and interactive based learning. As uses of technology is increasing, institutes should also incorporate and updates the newer methods of teaching learning to increase interest and understanding of students.

Declaration by Authors

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