

Preference of Teaching Methods among Medical Students: Large Group and Small Group Teaching

Mahendrakar Madhuri A.

Abstract

Background: The lecture is the most commonly used teaching learning method in medical education but the effectiveness of this traditional approach is being questioned. New educational teaching techniques are rapidly appearing in literature. It is been stated that to facilitate student learning interactive teaching learning methods should dominate the curriculum. This study is undertaken to ascertain the impact and study the preference of large group and small group teaching methods on learners. *Aim and Objective:* The aim and objective of this study is to understand the best way to achieve transfer of knowledge and skills between teacher and students that could contribute towards meaningful teaching and learning experiences for medical anatomy. *Materials & Methods:* This is a prospective, mixed (qualitative and quantitative) study seeking preference for teaching method among undergraduate first year MBBS students in subject of Anatomy. Data collection was done with a structured questionnaire containing questions pertaining to their attitude, perception as well as their preference for teaching method, after taking an informed consent. *Results:* In this study, majority of the students preferred small group teaching over large group teaching, for being interactive way of teaching. *Conclusion:* Small group teachings should be incorporated in the subject of Anatomy, along with didactic lectures to enhance active learning among students.

Keywords: Didactic Lectures; Small Group Teaching; Teaching and Learning Methods.

Introduction

The goal of medical education technology is to enhance learning by introducing various effective teaching and learning methods in the medical curriculum. Among the teaching methods employed in medical sciences, the commonest, oldest and integral method is didactic lecture [3]. Lectures are an efficient means of transferring knowledge and concepts to large groups in short time. They can be used to explain concepts, provide core knowledge, stimulate interest and promote direct student learning. However lecture is a passive mode of transferring knowledge with limited feedback from learners. Small group teaching and learning methods are effective

classroom methods by which learning takes place among a limited number of participants. It is an interactive session helping the students to develop their understanding of concepts, clinical skills, helps acquire critical thinking and improves strategies and approach to problem solving [2]. Over past few years, a lot of attention has been paid to promoting active learning by adopting interactive student-centred small group teaching and learning approaches in medical education [1,2,3,6,9,11]. Keeping the above facts in mind this study was planned and conducted to understand the preference of students among the two teaching methods – large group teaching represented by lecture and small group teaching represented by demonstration and teaching on dissection table.

Author's Affiliation: Professor (Additional), Department of Anatomy, Lokmanya Tilak Municipal Medical College & General Hospital, Sion, Mumbai, Maharashtra 400022, India.

Corresponding Author: Mahendrakar Madhuri A., Professor (Additional), Department of Anatomy, Lokmanya Tilak Municipal Medical College & General Hospital, Sion, Mumbai, Maharashtra 400022, India.

E-mail: madhurimahendrakar@yahoo.co.in

Received | 16.04.2018, Accepted | 05.05.2018

Materials and Methods

This is a prospective, mixed (qualitative and quantitative) study seeking preference for teaching method among undergraduate first year MBBS students in subject of Anatomy. The study was initiated after taking requisite clearance from

Institutional Ethics Committee. The students were explained about the purpose of the study, its usefulness for academic improvement and informed consent was taken from each student. Data collection was done with a structured questionnaire containing questions pertaining to their attitude, perception as well as their preference for teaching method - large group teaching represented by lecture and small group teaching represented by demonstration and teaching on dissection table. Feedback from the students on ten parameters for their preference for teaching method - lecture, demonstration and teaching on dissection table was collected and analysed. The attitude and perception of students towards teaching methods was also studied through a questionnaire.

Results

A total of 124 undergraduate first year MBBS students participated in this study. Feedback from students on preference of teaching method viz., lectures representing large group teaching, and demonstration and teaching on dissection table both representing small group teaching were obtained through a questionnaire. Feedback on attitude and perception towards teaching methods were also taken from students. This feedback was given by students based on their perception on teaching methods during the course.

Following are the parameters in a questionnaire seeking student's preference for teaching methods viz., lecture, demonstration and teaching on dissection table [2].

Parameter No.	Questionnaire
1	Which method do you think you are comfortable with? Specify reason.
2	Which method do you think is relevant to the topic taught?
3	Which method helps in understanding the subject better?
4	Which method do you think, will help you in improving your clinical skills?
5	Which method do you think, will give an opportunity for you to clarify your doubts?
6	Which method do you think will motivate you to study further?
7	Which method do you think, the teachers paid enough attention towards you?
8	Which method do you think aroused interest in you towards the subject?
9	Which method do you feel as active way of learning?
10	Which method do you think, was well organized?

The preferences of the students for the teaching methods - didactic lectures, demonstrations and teaching on dissection table and their combinations for the above ten parameters are shown in numbers and percentages in Table 1.

The six parameters in the questionnaire seeking students attitude and perception for teaching methods viz., lecture, demonstration along with their data analysis are shown in percentages in Table 2.

The three parameters in the questionnaire seeking students attitude and perception for teaching on dissection table along with their data analysis are shown in percentages in Table 3.

Table 1: Preferences of the students for the teaching methods

Parameter	L		D		T		LDT		LD		DT		LT	
	Nos	%	Nos	%	Nos	%	Nos	%	Nos	%	Nos	%	Nos	%
1	4	3.23	62	50.00	32	25.81	3	2.42	1	0.81	22	17.74	0	0.00
2	16	13.22	56	46.28	29	23.97	11	9.09	1	0.83	8	6.61	0	0.00
3	6	4.84	45	36.29	50	40.32	4	3.23	1	0.81	18	14.52	0	0.00
4	0	0.00	43	34.68	63	50.81	1	0.81	1	0.81	15	12.10	1	0.81
5	10	8.06	74	59.68	27	21.77	2	1.61	1	0.81	10	8.06	0	0.00
6	9	7.32	50	40.65	44	35.77	0	0.00	3	2.44	16	13.01	1	0.81
7	3	2.44	87	70.73	14	11.38	2	1.63	0	0.00	17	13.82	0	0.00
8	0	0.00	43	34.96	63	51.22	3	2.44	1	0.81	13	10.57	0	0.00
9	3	2.42	37	29.84	70	56.45	0	0.00	1	0.81	12	9.68	1	0.81
10	19	15.32	73	58.87	15	12.10	9	7.26	3	2.42	4	3.23	1	0.81

L - lectures, D - demonstrations and T - teaching on dissection table and their combinations

Table 2: Attitude and perception for teaching methods – lecture, demonstration

Sr. No.	Parameter	Lecture	Demonstration
1	Preferred time viz., morning / afternoon for lecture and demonstration	8.30am -	12.90%
		11.30am -	30.64%
		1.30pm -	40.32 %
		3.00pm -	16.13%
2	Preferred duration of lecture and demonstration	45min -	10.48%
		1hr -	36.29%
		1½hr -	43.55%
		2hr -	09.68%
3	How many consecutive lectures or demonstrations are preferred?	1 -	72.58%
		2 -	26.61%
		3 -	08.10%
		4 -	00.00%
4	Teaching aids preferred in lecture and demonstration - which of the following Chalk board, Slides, OHP, LCD ppt	Chalk board -	75.80%
		Chalk board & slides -	--
		Chalk board & LCD -	8.87%
		Chalk board & OHP -	0.16%
		LCD ppt -	31.45%
		OHP -	0.08%
		Slides & OHP -	0.08%
Blank -	--		
5	How long can you concentrate during a lecture and demonstration?	20min -	01.61%
		30min -	10.48%
		45min -	27.42%
		1hr -	37.90%
		1½hr -	19.35%
		2hr -	03.22%
6	You give maximum emphasis on 1. Understanding the topic 2. Taking down notes 3. Fulfilling the attendance criteria by attending lecture/ demonstration Write preference	1 -	83.87%
		2 -	02.41%
		3 -	00.00%
		1,2 -	04.03%
		1,3 -	03.22%
		1,2,3 -	06.45%
		2,3 -	00.00%

Table 3: Attitude and perception for teaching on dissection table

Sr. No.	Parameter	Lecture
1	Preferred time viz., morning / afternoon for dissection	8.30am -
		1.30pm -
2	Preferred duration of dissection	14.51%
		34.67%
		42.74%
3	Preferred Teaching aids with/without guidance of teacher	08.06%
		02.41%

Discussion

Teaching methods which increase student motivation and enhance learning have evolved through history [2]. Didactic lecture is a primitive, traditional, oldest method used in mass instruction.

Lecture is a careful presentation of facts with organised thoughts by a qualified person. It is currently the most conventional educational technique. Lecture provides core knowledge and explains concepts to large groups, stimulates interest and facilitates direct student learning. Students silently and passively receive information. The lecture as a method of imparting knowledge dominates and will continue to have a place in teaching. Lectures cover a large group of learners and are good for transmitting vast amounts of information in short time, so is a economical way of teaching. Information given to the class is uniform in contrast to small group teaching where it can vary from teacher to teacher. This teaching method updates summary of topic from several sources and saves learners time. Lectures are based on teacher controlled thinking and are economical way of using staff time. Disadvantages of lectures are the audience remains passive with limited

feedback from learners. A high caliber of teacher is needed and it does not cater to slow learner, information is quickly forgotten and attention wanes off quickly [1,2,3,5,6,9,11].

On the otherhand small group teaching involves active participation of learners, facilitates understanding of concepts and helps in retention of knowledge. This method facilitates to acquire critical thinking and improves strategies. Small group teaching increases the team work ability, increase student interest and improves critical skills. Students receive immediate feedback on their learning and also help in establishing rapport between facilitator and student. This teaching method helps the students to improve their interpersonal communication skills which will be helpful as professionals. Disadvantages of small group teaching are lot of planning, increased number of teaching staff, immense infrastructure and resources are required [1,2,3,5,6,9,11].

A further consideration with small group teaching is the subjective perspective of what constitutes a small group. A lecturer used to teaching 400 learners in a lecture would define 50 as a small group, while a lecturer used to a group of 50 would define 5-10 as a small group [11].

Large group teaching and small group teaching both have their own advantages and disadvantages, but both the teaching styles shows that learners at some point gain meaningful understanding of concepts but outcome varies and depends on many factors. It can be understood that large group lecturing is therefore ideal for disseminating basic level information on the subject which can act as a guide line for future reading, but in order to provoke deeper interest and understanding, face to face communication is essential. Thus it can be suggested that, both small group teaching and large group lecturing are essential elements for meaningful teaching and learning, and both the teacher and students should be actively engaged in this process [7]. Medical undergraduate education is undergoing major changes with efforts towards making it more interesting [1]. The introduction of an interactive student-centered approach in medical education has dramatically changed the way students learn [8].

In present study, majority of students have given preference for small group teaching in all the ten parameters against large group learning method similar to other studies [1,2,3,5,6,9]. The students have stated that they are comfortable with the small group learning method (demonstration -

50%, teaching on dissection table - 25.81%) than large group learning method. The reasons given for the preference for demonstration are mainly interactive sessions and individual attention and for teaching on dissection table are better understanding, hands on dissection table and visualising parts helps in memorising.

The students have preferred small group teaching methods - demonstration and teaching on dissection table for relevancy of the topic taught and for better understanding. For improving clinical skills students have preferred small group teaching methods - teaching on dissection table (50.81%) and demonstration (34.68%). The students have opted for small group teaching methods for seeking clarification on doubts and teachers attention. In present study, students accepted that small group learning demonstration (40.65%) and teaching on dissection table (35.77%) motivated them more for further studies which is consistent with the findings by Yoo et al [12]. Students have preferred small group teaching, being well organised method for active way of learning which also arouses interest in the subject.

The parameters seeking attitude and perception of students for lecture, demonstration viz.- preferred time, preferred duration, no. of consecutive lectures or demonstrations, preferred teaching aids, concentration during a lecture or demonstration, emphasis on understanding the topic, taking notes and/or fulfilling the attendance criteria were analysed.

Majority of the students preferred morning time (8.30am) for lecture and afternoon time (1.30pm) for demonstration and preferred duration for lecture was 1hr and for demonstration 1½hr. Two consecutive lectures and one demonstration were preferred by majority students. The analysis of the percentage of students who have opined about their preference for teaching aids for lecture and demonstration viz., chalk and board, LCD ppt is similar to study done by Rokade S. A. et al. [10] and N. Sullivan et al. [4].

Majority students have stated that they can concentrate for 30min in a lecture and 1hr for demonstration. Maximum emphasis was given to understand the topic rather than taking notes and fulfilling the attendance criteria for attending lecture/demonstration.

Further majority of the students preferred afternoon time (1.30pm) and preferred 2hr duration for dissection and guidance during dissection.

Conclusion

This study provides evidence that small group teaching is a more effective method of teaching. The small group teaching as a learning tool was appreciated by students and is responsible for self-reported satisfaction, engagement and motivation towards the subject. Even though students have shown preference to small group teaching viz., demonstration and teaching on dissection table, lectures being an efficient means of transferring knowledge and concepts to large group, require to be an integral part of the medical curriculum.

References

1. Dawane J. S., Pandit V. A., Dhande P. P., Sahasrabudhe R.A., Karandikar Y. S. A Comparative study of Different Teaching Methodologies used for developing understanding of Cardiac Pharmacology in Undergraduate Medical Students. *IOSR Journal of Research & Method in Education (IOSR-JRME)* 2014 May-Jun.;4(3 ver III):34-38.
2. Jyoti Markam, Vijaykumar Mane, Roseline F. William, Mahendrakumar khobragade. *National Journal of Research in Community Medicine*. 2015 July-Sept;4(3):241-46.
3. Madhav K. Savkar, Vinaya Mariswami, Manu Gangadhar. Comparison between didactic lectures and small group discussions among second year medical undergraduates in Pharmacology. *IJBCP*, 2016 Nov-Dec;5(6):2542-45.
4. N. Sullivan, E. Pratt. A comparative study of two ESL writing environments: A computer-assisted classroom and a traditional oral classroom. *System*, 1996 Elsevier.
5. Peyman Hafezimoghadam, Sahar Farahmand, Davood Farsi, Mohammadamin Zare, Saeed Abbasi. A Comparative Study of Lecture and Discussion Methods in the Education of Basic Life Support and Advanced Cardiovascular Life Support for Medical Students. *Tr J Emerg Med* 2013;13(2):59-63.
6. Philip H. Pollock, Kerstin Hamann, Bruce M. Wilson. Comparing the Benefits of Small-Group and Large-Class Discussions. Electronic copy available at: <http://ssrn.com/abstract=1544620>.
7. Polly Lama, Jyoti Kulkarni, Binod K Tamang, Pranoti Sinha. The impact and significance of small and large group teaching and learning in medical curriculum. *SMU Medical Journal* 2015 July;2(2).
8. Ranabir Pal, Sumit Kar, Forhad Akhtar Zaman, et al. Assessment of Impact of small group teaching among students in Community Medicine. *Indian Journal of Community Med*. 2012 July-Sept;37(3):170-73.
9. Ratnakar U.P., Sheetal D., Ullal, Preethi G. Pai, Rajeshwari S., Pemminati Sudhakar, Shivaprakash G. et al. Is small group teaching among the under graduate dental students really effective? *JCDR*, 2011;5(4):822-25.
10. Rokade S. A., Bahetee B. H., Shall we teach Anatomy with chalk and board or power point presentations? An analysis of Indian students' perspectives and performance. *Sch. J. App. Med. Sci.*, 2013;1(6):837-42.
11. UCD Teaching and learning. www.ucd.ie/teaching.
12. Yoo Ms., Park Jh, Lee SR. The effects of case - based learning using video on clinical decision making and learning motivation in undergraduate nursing students. *J. Korean Acad Nurcing*. 2010;40:863-71.