

Original Research

Comparison of traditional lecture teaching and integrated teaching in under graduate second year MBBS students

Dr. Chandrashekar K¹, Dr. Saritha M.K²

¹Professor and head, Department of Pharmacology, Karwar Institute of Medical Sciences, Karwar, Karnataka, India;

²Professor, Department of Dentistry, Karwar Institute of Medical Sciences, Karwar, Karnataka, India

ABSTRACT:

Introduction: Various methods of teaching are lectures, seminars, tutorials, group discussions and demonstrations. Most of these methods involve only passive learning. Increased emphasis is being laid on students centered and integrated teaching. Both vertical and horizontal integrated teaching has been recommended by the Medical Council of India. The superiority of such novel methods over other existing methods in facilitating students learning has not been adequately assessed and hence the present study was undertaken. **Objective:** Comparison of lecture teaching and integrated teaching methods in under graduate second year MBBS students. **Methodology:** IEC approval was taken from the institute. Under graduate second year MBBS students from Karwar Institute of Medical Sciences, Karwar, were randomly divided into 2 groups of 75 each; group-I for traditional lecture and group-II for integrity teaching. First lecture class on bronchial asthma was conducted from department of Pharmacology faculty in group-I students. More emphasis was laid on problem based learning in the theory class. Both pre test and post test were conducted on the study group to assess the outcome of the teaching method. In group-II students, integrated teaching on bronchial asthma was undertaken from faculty of Pathology, Pulmonologist, Pharmacology and Dentistry. Pre test and post test were conducted after integrity teaching classes to evaluate the outcomes. The total scores for pre test and post test were evaluated for the results using student-t test. **Results:** Marks obtained in the pre-test were not statistically significant in integrated study methods compared with the pre-test marks of lecture method. But marks obtained in the post-test were significantly higher in Lecture method as compared to the post-test marks of integrated teaching method. Lecture class teaching method in under graduate second year MBBS students showed statistically significant results when more emphasis was placed on Problem Based Learning. **Conclusion:** Lecture class teaching method in under graduate second year MBBS students showed statistically significant results compared to integrity teaching method. Problem Based Learning showed better outcome in traditional lecture method.

Keywords: Lecture, integrity teaching, problem based learning, test.

Received: 23/09/2020

Modified: 18/10/2020

Accepted: 20/10/2020

Corresponding author: Dr. Saritha M.K, Professor, Department of Dentistry, Karwar Institute of Medical Sciences, Karwar, Karnataka, India

This article may be cited as: K Chandrashekar, MK Saritha. Comparison of traditional lecture teaching and integrated teaching in under graduate second year MBBS students. J Adv Med Dent Sci Res 2020;8(11):1-4.

INTRODUCTION

Medical education in undergraduate MBBS course comprises of extensive curriculum with vast subjects. Students are expected to learn many subjects in limited time frame. Various teaching modalities are employed for educating the students, they are lectures, seminars, tutorials, group discussions and demonstrations. Most of these methods involve passive learning by the students.

Traditional lecturing is one of the most commonly used teaching methods in undergraduate teaching and

seems to be appropriate method for providing information, but it does not promote thinking and critical evaluation.¹ The didactic lecture method has been immensely criticised by various researchers in the past by many medical researchers.^{2,3}

Increased emphasis is being laid on students centered learning. Hence Medical Council of India is revising the curriculum periodically to overcome the shortcomings of teaching methodologies. It has introduced integrity teaching which involves both

horizontal and vertical integrity between various departments.⁴

Integration in education is defined as the coordination of different teaching –learning activities to ensure the harmonious functioning of the educational process for more effective learning by students.⁵ It is a planned approach which provides more benefits to students and facilitators.⁶ Integrated teaching aims to provide knowledge to the students in a complete organized way hence allowing students to have a more clear view of the topic.⁷

Each teaching methods have their own advantages and disadvantages. Even though there are certain established studies, we are conducting this study to compare traditional teaching or student- centered integrity teaching in our institute.

METHODOLOGY

Institutional Ethics Committee approval was taken from the institute. Under graduate second year MBBS students from Karwar Institute of Medical Sciences, Karwar, were randomly divided into 2 groups of 75 each;

Group-I for traditional lecture with aid of black board, chalk and PPT,

Group-II for integrity teaching.

Informed consent was obtained from all the students after explaining the study.

In group-I students, more emphasis was laid on problem based learning in the traditional theory class on topic bronchial asthma. Both pre test and post test were conducted in the study group to assess the outcome of the teaching method.

In group-II students, integrated teaching on bronchial asthma was undertaken from faculty of Pathology, Pulmonologist, Pharmacology and Dentistry. Pre test and post test were conducted after integrity teaching classes to evaluate the outcomes. Feedback was obtained from the students regarding the preference of the teaching methods.

Outcomes were assessed through Problem Based Learning, MCQ, true or false, filling the blanks on a total score of 10 marks as follows

PBL- 5 marks

MCQ- 2 marks

True or false-2 marks

Filling the blanks-1 mark.

The total scores for pre test and post test were evaluated for the results.

The effectiveness of study was assessed by analyzing pre and post-test. Pre-test and post-test scores were compared. The mean knowledge scores of pre-test and post-test of both the groups were compared using student t-test. P-value of less than 0.05 was considered to establish statistical significant difference between the 2 groups.

RESULTS

Mean, standard deviation, standard error, t and p values for the marks obtained in pre and post-test for both kind of teaching methods using Student's paired t-test was depicted in Table 1. The marks obtained in the post test were significantly higher than pre test marks for both the methods ($p < 0.0001$), conventionally this difference is considered to be statistically highly significant.

Table 2 shows comparison of significance using Student's unpaired t –test, it showed that marks obtained in the pre test were not significantly different in integrated study method as compared with the pre-test marks of Lecture method ie; No statistically significant results were obtained using pre test questionnaires of both the methods ($P = 0.6051$). But, marks obtained in the post test were significantly higher in Lecture method as compared to the post-test marks of integrated teaching method. Highly significant results were obtained on statistical comparison ($P < 0.0001$), conventionally this difference is considered to be statistically highly significant.

Marks obtained in the pre-test were not significantly different in integrated study methods compared with the pre-test marks of lecture method. No statistically significant results were obtained using pretest questionnaires of both the methods. But marks obtained in the post-test were significantly higher in Lecture method as compared to the post-test marks of integrated teaching method. Lecture class teaching method in under graduate second year MBBS students showed statistically significant results.

Table 1: Comparison between Pre-test & Post-test for both Traditional Lecture & Integrated teaching method

Group	Paired t-test							
		N	Mean	SD	SE	df	T	P value
Traditional Lecture Method	Pre-test	75	3.06	1.254	0.125	99	-17.801	P<0.0001
	Post-test	75	5.83	1.28	0.128			
Integrated Teaching Method	Pre-test	75	2.96	1.529	0.144	112	-9.045	P<0.0001
	Post-test	75	4.41	1.406	0.132			

SD-standard deviation, SE-Standard error, df-degrees of freedom, **P<0.0001-Highly Significant**

Table 2: Comparison of improvement in scores between Traditional Lecture method and Integrated teaching method

Group	UnPaired t-test							
		N	Mean	SD	SE	df	t	P value
Pre-Test	Lecture Method	75	3.06	1.254	0.125	211	-0.518	P=0.6051
	IT	75	2.96	1.529	0.144			
Post-Test	Lecture Method	75	5.83	1.28	0.128	211	-7.671	P<0.0001
	IT	75	4.41	1.406	0.132			

SD-standard deviation, SE-Standard error, df-degrees of freedom, **P<0.0001-Highly Significant**

DISCUSSION

Medical education plays an integral role in the progress of any country. Across the globe, increasing attention is being given to the methods of teaching and learning to improve quality of education in medical colleges. So, suitable approaches, methods, techniques and skills in medical teaching and learning are essential to produce a good number of committed doctors who serves the nation with social responsibility.⁸

In the present study we have compared the traditional lecture teaching and integrated teaching in under graduate second year MBBS students. The results showed there was no statistical difference in pre test of both study groups depicting students had very less knowledge about the topic before engaging class.

But marks obtained in post test were significantly higher than pre test for both the study groups depicting students knowledge was enhanced after conducting both traditional lecture and integrity teaching methods.

The results showed there was statistical difference in post test of both groups depicting students had better knowledge about the topic in traditional teaching method than integrity teaching method. The increased outcome in traditional lecture method was enhanced as more emphasis was placed on problem based learning which increased students knowledge on applied aspects of the topic when compared to integrity teaching. It is in agreement with a study where students preferred teacher centered lecture teaching method.⁸

Lecture was still a preferred and established part of learning experience among the educational institutions applied in undergraduate medical education.^{9,10,11,12} It is one the oldest method of teaching and learning in all types of education including medical science. Medical Council of India has considered lecture as one of prime method of teaching.¹³

Problem Based Learning equips studnets with better critical thinking, reasoning, team building, communication, self-directed learning, and clinical skills than do traditional lectures.¹⁴ Hence when we combine PBL with traditional lecture methods the outcome by the students is as good as integrity teaching.

CONCLUSION

Traditional lecture teaching method with more emphasis on problem based learning in under graduate second year MBBS students was more effective compared to integrity teaching method. Problem Based Learning showed better outcome in traditional lecture method.

REFERENCES

1. Markham, T., Jones, S. J., Hughes, I. E. and Suttcliffe, M. (1998) Survey of methods of teaching and learning in undergraduate pharmacology within UK higher education.
2. Trends in Pharmacological Sciences;19: 257-262. [16]. Kotwal A. Innovations in teaching/learning methods for medical students: Research with mentoring. Indian J Public Health 2013;57:144-6 [17].
3. Rehman R, Niaz Khan A, Kamran A. Role of small group interactive sessions in two different curriculums based medical colleges. J Pak Med Assoc 2012; 62(9): 920-923
4. Medical Council of India. Vision 2015. Available at: www.mciindia.org/tools/announcement/MCI_booklet.pdf (last accessed on August 9, 2015)
5. The World summit on Medical Education; Recommendations. Medical Education. 1994;28(Suppl 1):1-3.
6. Evaluation of impact of an integrated lecture method of teaching among undergraduate medical students, compared to traditional didactical lectures in reference to antenatal care. Behera BK et al. Int J Adv Med. 2017 Jun;4(3):640-644
7. Dandannavar VS. Effect of integrated teaching versus conventional lecturing on MBBS phase I students. Recent research in science and technology 2010; 2(11):40-48.
8. "Teaching and Learning Methodology in Medical Education: An Analysis-in GSL Medical College, Rajahmundry, A. P". Journal of Evolution of Medical and Dental Sciences 2015; Vol. 4, Issue 72, September 07; Page: 12557-12565.
9. Hafeez, K., Khan, M. L. Z., Jawaid, M., &Haroon, S. Low attendance in lectures at medical colleges of Karachi – A cross sectional survey. Journal of Postgraduate Medical Institute, 28 (2), 161- 164, (2014).
10. Abedini, M., Motazavi, F., Javadinia, S. A., & Moonaghi, H. K. A new teaching approach in basic

- science: Peer Assisted Learning. *Procedia - Social and Behavioral Sciences*, 83, 39-43, (2013).
11. Papanna, K. M. , Kulkarni, V. , Tanvi, D. , Lakshmi, V. , Kriti, L. , Unnikrishnan, B. , et al. Perceptions and preferences of medical students regarding teaching methods in a Medical College, Mangalore India. *African Health Sciences*, 13 (3), 808-813, (2013).
 12. Saleh, A. M., Al-Tawil, N. G., & Al-Hadithi, T. Teaching methods in Hawler College of Medicine in Iraq: A qualitative assessment from teachers' perspectives. *BMC Medical Education*, 12:59, (2012).
 13. Sarkar AP, Majumdar G. Perception on lecture class in Community Medicine among MBBS students of West Bengal in India. *Reviews of Progress*, 2013; 1 (17): 1-7.
 14. Schmidt HG, Machiels-Bongaerts M, Hermans H, ten cate TJ Venekamp R, Boshuizen HP. The development of diagnostic competence: Comparison of a problem based, an integrated and a conventional medical curriculum. *Acad Med*. 1996;71:658-64.