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Original Research Article

A comparative study on traditional teaching with integrated teaching on II MBBS students

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ABSTRACT

Background: The term integration in education means coordination in the teaching-learning activities to ensure the harmonious functioning of the educational processes.

Methods: Study was conducted in ASRAM medical college. 140 students of II MBBS were randomised into 2 groups. One group was taught by traditional didactic lecture. Other group was taught by integrated teaching along with the pathology department. A post-test questionnaire was given 3 days after the end of each session. The effectiveness of the study was done by assessing both the questionnaires. Feed-back was taken from the students on both types of teaching.

Results: In Integrated teaching group, 12% got more than 80% marks, 71% got more than 60-80% marks, 11% students scored 50-60% marks and 4.7% students scored less than 50% marks. In didactic teaching group, 8.95% scored more than 80% marks, 45% students scored 60-80% marks, 23.88% students scored 50-60% marks and 14.92% students scored less than 50% marks. In our study, students felt that integrated teaching was of more useful to them. It helped them in understanding of concepts and maintaining interest in topic. They felt that there was a positive interaction which helped them to correlate the two subjects.

Conclusions: This study concludes that integrated teaching is more helpful to students in learning.

Keywords: Integrated teaching, Didactic lectures, Education

INTRODUCTION

Medical schools all over India mainly have lectures as the most widely used teaching and learning methods. Furthermore, the classroom is getting larger due to students numbering more than 100 and their participation remains a challenge. Innovation to use interactive teaching methods in a large classroom is necessary to engage students in a useful way. Integrated teaching is one of the teaching methods introduced in competency based undergraduate curriculum for the Indian medical graduate. Integration is a learning experience that allows the learner to perceive relationships from blocks of knowledge and develop a unified view of its basis and its application. The

term integration in education means coordination in the teaching-learning activities to ensure the harmonious functioning of the educational processes.¹ Integrated thinking offers the capacity to individualize.²

Integration concepts framed in GMR (Graduate Medical Education Regulations, 2018):

Temporal co-ordination- timetable is adjusted so that topics within the subjects or disciplines which are related, are scheduled at same time. Sharing- two disciplines may agree to plan and jointly to implement a teaching program. Correlation- the emphasis remains on disciplines or subjects with subject-based courses taking up most of the

curriculum time. Within this framework, an integrated teaching session or course is introduced in addition to the subject bases teaching. Nesting- the teacher targets within a subject based course- skills relating to subject based course.

The advantages of integrated teaching over traditional lectures are:³

Integrated teaching reduces fragmentation of medical courses, prevents repetition and waste of time, students learn to apply their knowledge to clinical practice, promotes interdepartmental collaboration, rationalization of teaching resources

At present the teaching method for II MBBS is didactic lectures.

Aims and objectives

To introduce integrated teaching to II MBBS students through subjects Pathology and Pharmacology. To study the effectiveness of integrated teaching among students and to get the feedback about the new learning method in comparison to didactic lecture

METHODS

Study design and setting

An Institute based interventional randomised study was done in ASRAM medical college, Eluru, Andhra Pradesh. Study period was from August 2019 to September 2019.

Study tools

The study tools were predesigned pretested structured self-administered questionnaire containing multiple choice questions- 10 from Pharmacology and 10 from Pathology. The study tools were developed in consultation with 6 experienced teaching staffs, 3 each from 2 disciplines: Namely Pathology and Pharmacology. It was pretested among 30 senior students. Necessary correction and modification were adopted before final data collection. Student feedback forms were designed based on Likert scale.

Study method

Institutional ethical committee clearance was obtained from IEC, ASRAMS prior to study.

Trained faculty in revised basic course in Medical Education workshop, one from Pathology and one from Pharmacology were selected for the study.

Out of 140 students from 5th semester, who give consent to this study were included in this study. Students who did not wish to take part in this study were excluded. Students were randomised into 2 groups- group A and group B.

Written informed consent was taken from each participant. same topic was taught for both groups but with different modes of teaching. The topic selected was peptic ulcer. It was taught by 2 departments- pathology and pharmacology. Group A students were taught by integration by sharing method on the same day. Group B students were taught by didactic lecture in another week. Feedback of students were taken on following parameters- achievement of objective, interest of audience, containment of topic, proper management of time, appropriate use of A-V aids, Interaction with students, Understanding of concepts and overall rating. Feedback was collected from all the students which was designed based on Likert scale. A post-test questionnaire was given 3 days after lecture. The self-administered questionnaire has 10 multiple choice questions for each subject- pathology and pharmacology and each carry 1 mark.

RESULTS

Out of 140 students, 63 students from Group A and 67 students from group B gave assessment exam and feedback forms. Marks of both the groups were compared by percentages of marks. In Integrated teaching group, 12% got more than 80% marks, 71% got more than 60-80% marks, 11% students scored 50-60% marks and 4.7% students scored less than 50% marks. In didactic teaching group, 8.95% scored more than 80% marks, 45% students scored 60-80% marks, 23.88% students scored 50-60% marks and 14.92% students scored less than 50% marks (Table 1).

Table 1: Marks scored by students.

Marks	Group A (n=63)		Group B (n=67)	
>80%	8	12%	6	8.9%
60-80%	45	71.4%	35	52.23%
50-60%	7	11%	16	23.88%
<50%	3	4.7%	10	14.92%

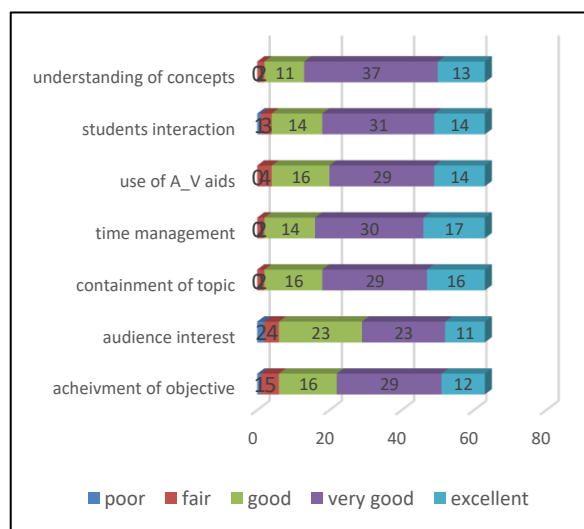
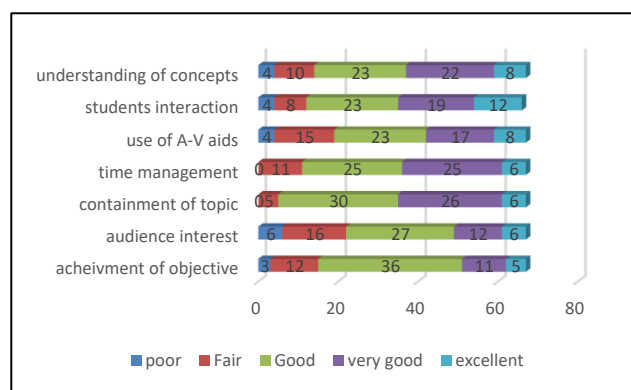
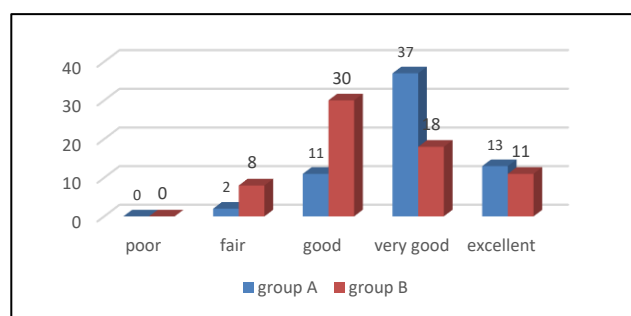


Figure 1: Feedback of integrated teaching group.

Table 2: Feedback.

Feedback questions	Group	Poor	Fair	Good	Very good	Excellent
Achievement of objective	A	1	5	16	29	12
	B	3	12	36	11	5
Interest of audience	A	2	4	23	23	11
	B	6	16	27	12	6
Containment of topic	A	0	2	16	29	16
	B	0	5	30	26	6
Proper management of time	A	0	2	14	30	17
	B	0	11	25	25	6
Appropriate use of A-V aids	A	0	4	16	29	14
	B	4	15	23	17	8
Interaction with students	A	1	3	14	31	14
	B	4	8	23	19	12
Understanding of concepts	A	0	2	12	35	14
	B	4	10	23	22	8
Overall rating	A	0	2	11	37	13
	B	0	8	30	18	11

**Figure 2: Feedback of group B.****Figure 3: Feedback overall rating.**

The feedback was assessed using Likert scale. All the parameters in integrated group got good rating i.e. good, very good and excellent (Figure 1).

DISCUSSION

According to the competency based undergraduate curriculum for the Indian medical graduate, new teaching methods like self-directed learning, small group discussions, integrated teaching were introduced.

Integration is a learning experience that allows the learner to perceive relationships from blocks of knowledge and develop a unified view of its basis and its application. The GMR 2018 applies the principles to the extent that will retain the strengths of silo - based education and assessment while providing experiences that will allow learners to integrate concepts.

Integration can be done in horizontal way means that two or more departments teaching simultaneously merge their educational identities and vertically means integration between disciplines traditionally taught in the different phases of curriculum. There are four major components in it namely: integration of experience, social integration, integration of knowledge, integration as a curriculum design.⁴

Medical Council of India has adopted an integrated curriculum which de-emphasize compartmentalization of disciplines.⁵

Presently we have non-integrated system of undergraduate curriculum for MBBS which involves mainly didactic lectures. From this study, it was found that integrated teaching was well accepted by students.

12% students from integrated teaching group scored more than 80% marks whereas 8.95% students from didactic lecture group scored more than 80% marks. 71% students from group A scored 60-80% marks in comparison to Group B where 45% students scored 60-80% marks. In group A, 11% students scored 50-60% marks and 4.7% students scored less than 50% marks. In group B, 23.88% students scored 50-60% marks and 14.92% students scored less than 50% marks. Similar studies at Seth GS Medical College, Mumbai, Maharashtra by Joglekar et al at MGM's Medical College, Navi Mumbai, India by Kate et al, at Pramukhswami Medical College, Karamsad, Gujarat by Ghosh and Pandya; at Jawaharlal Nehru Medical College,

Belgaum Karnataka by Dandannavar and at Terna Medical College, Nerul, Navi Mumbai by Nikam and Chopade revealed that the marks obtained by the students who had undergone IT was statistically significantly greater than those who did not.^{1,6-9} But unfortunately we could not compare it in present study.

Students feedback

In our study, students felt that integrated teaching was of more useful to them. It helped them in understanding of concepts and maintaining interest in topic. They felt that there was a positive interaction which helped them to correlate the two subjects, which was similar to studies by Dandannavar at Karnataka, Nikam and Chopade at Mumbai, Soudarssanane and Sahai at JIPMER, Kadam and Sane at Maharashtra, Kumari et al. at Bangalore, Mahajan et al at Ahmedabad and Rehman et al at Pakistan.⁸⁻¹⁴

CONCLUSION

The findings and the experience of this study supports the view of other studies that such newer methods of education help to increase teacher-student and teacher-teacher interactions and that Integrated method avoids fragmented manner of teaching where teachers are not aware of what is taught in other subjects. It also removes subject phobia and develops interest in the topic.

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Conflict of interest: None declared

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