

INTRODUCTION OF INTEGRATED TEACHING IN I st MBBS: PERSPECTIVE OF STUDENTS

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ABSTRACT: AIMS AND OBJECTIVES: study was carried out to focus on effective and meaningful learning that will help the students' overall development and to improve the continuity of students' learning.

MATERIAL AND METHOD: 150 students of 1st M.B.B.S, year 2012-2013 were selected and integrated teaching in subjects including anatomy, physiology, biochemistry, and pharmacology was conducted after selecting few important topics. Pre and post test evaluation was carried out. Questionnaire was provided for the feedback of the students. **RESULTS:** 75.2% students liked the session of integrated teaching and found it very useful. 80.6% of students appreciated content, method and presentation of integrated teaching module. 83.67% students wanted integrated teaching program for regular teaching every month. Out of 144 students, only 7 students were not in favor of integrated teaching. 85% students felt that integrated teaching would be beneficial to them for their summative examinations.

CONCLUSION: The students recognized that integrated teaching in different medical subjects was useful and interesting and that should be continued as frequently as possible. Integrated teaching should be implemented in medical curriculum for effective teaching.

KEY WORDS: fragmented, horizontal teaching, integrated teaching, vertical teaching.

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INTRODUCTION:

Change is the only constant thing in this world. All over the world, medical education is changing rapidly in order to keep pace with time. This has been appreciated by Medical council of India, and accordingly it has put forward guidelines for various medical colleges for effective and need based curriculum for MBBS. One of the most important aspect of this modified curriculum is integrated teaching. Integration has been accepted as an important educational strategy in medical education¹.

There is famous saying "Knowledge that is learnt in isolation is rapidly forgotten"² In our present medical curriculum, each subject is taught separately in the respective departments in an isolated manner. In a nut shell, present undergraduate curriculum is fragmented and discipline based. The curriculum largely doesn't allow the students to apply the knowledge in context and make links between their learning and clinical experience. Also as far as Ist MBBS is concerned, Medical Council of India has reduced the duration of course to 1 year, which some feel is insufficient. In conventional teaching, some common topics to different

subjects are repeated leading to wastage of time and resources. This prompted the Medical Council of India to adopt a need based curriculum for undergraduate medical education in India³. In this scenario, certain topics common to certain subjects can be taught on a common platform with the help of integrated teaching. In order to make learning more effective and relevant, the concept of integration has to be brought in. Integration of newer teaching modalities and modern technology will encourage interest and retention of knowledge and its clinical application. Certain studies have shown that it is possible to adopt to adopt an integrated learning module in medical teaching under a conventional curriculum⁴.

Integrated teaching was introduced in M.S.Ramaiah Medical College, Bangalore, in year 2004-2005.

Webster's Encyclopedic Dictionary defines integration as "combining or co-coordinating separate elements so as to provide a harmonious inter-related whole"⁵.

Integration means: organization of teaching matter to inter-relate or unify subjects

frequently taught in separate academic courses or departments. Integrated teaching is also known as synergistic teaching, Inter-connected teaching, thematic teaching, because on the same topic different subject experts will deliver their knowledge at the same time. constraints imposed by traditional subject barriers are broken in integrated teaching and all the aspects of the same theme are covered by different subject experts.

Effective teaching is defined as “one that produces demonstrable results in terms of cognitive and affective development of the undergraduate students” (Cabrera and NASA)⁶.

AIMS AND OBJECTIVES:

India is facing challenges in medical education and similar challenges are across different countries. Most of the curriculum time is spent on traditional lectures. Education can be defined as the art of acquiring, retaining and utilizing knowledge at a required time. We tried to introduce integrated teaching in 1st M.B.B.S. students to facilitate learning and tried to make teaching more effective and interesting.

This study was carried out to analyze the results of a survey of students regarding the integration between anatomy, physiology, biochemistry, and pharmacology.

MATERIALS AND METHOD:

During the year of 2012-2013, we conducted integrated teaching for the 1st M.B.B.S students in a class of 150 students. Framing a time table – meetings were held and a curriculum committee was formed by the heads of pre-clinical (anatomy, physiology, biochemistry) and Para-clinical (pharmacology) departments. In meetings particular topics of interest which were common to different disciplines, as per the curriculum, were selected, such as autonomic nervous system, cerebellum, coronary arteries, and thyroid gland.

The departmental heads then allotted the topics to their faculties for preparation. The staffs that were assigned from above mentioned departments for a particular topic, had a meeting and formulated learning

objectives and different teaching – learning methodologies for active participation of students in their learning.

Students’ feedback after the completion of the module was taken and the feedback was collected at the end of session. The questions for feedback were framed, keeping in mind the utility of the integrated teaching

A 5-pt Likert scale with a score of 1=poor, 2=satisfactory, 3=good, 4=very good and 5=excellent was used to find the rating.

Positive and negative aspects and the students’ suggestions were collected in printed forms to improve the approach for integrated teaching.

Also, at the beginning and end of each topic of integrated teaching, a few subject related questionnaire was given to the students to quantify the effectivity of teaching.

RESULTS:

Out of 150 students, 144 students responded completely to questionnaires.

Analyses of results show that 75.2% students liked the session of integrated teaching and found it very useful.

80.6% of students appreciated content, method and presentation of integrated teaching module.

83.67% students wanted integrated teaching program for regular teaching every month.

Out of 144 students, only 7 students were not in favor of integrated teaching.

As far as free comments were concerned, 85% students felt that integrated teaching would be beneficial to them for their summative examinations.

However, 24.3% students found the long hours for same topic on the same day to be exhaustive. And 15% students also suggested breaks of 15 minutes between each session for maintaining attention span.

DISCUSSION:

Dictionary meaning of integration is “TO MAKE ENTIRE”. The need for integration is also felt by the students as several topics especially in preclinical subjects are taught by each department at different times, without any

awareness of what is being taught by other departments.

Integrated teaching can be:

- 1) Horizontal teaching
- 2) Vertical teaching

Horizontal integration and vertical integration. Horizontal integration refers to linking disciplines which, in a conventional curriculum, are taught at a given stage. Thus common topics taken by basic medical science subjects of anatomy, physiology and biochemistry would be an example of horizontal integration. Vertical integration, on the other hand, refers to the linking of subjects which are conventionally taught at different stages. Thus teaching anatomy with surgery or physiology with medicine would be an example of vertical integration. (CISP 2012, MCI)⁷.

Our results show that integrated teaching was perceived to be highly useful to majority of students. This is in line with works done by Sharmishta, Himanshu 2008⁴, Kalpana Kumari 2011⁸. This can be due to the fact that during integrated teaching, the students get a bird's eye view of a whole topic at the same time. There is no fragmentation of knowledge which occurs in conventional teaching to which the students are majority of times exposed. In our study we brought all the faculty members on the same platform during the same time slot. E.g. for teaching coronary circulation, initially faculty from anatomy took a lecture about anatomy of coronary blood vessels. This was followed by a lecture from physiology faculty about basic physiology regarding coronary circulation and at last biochemistry department gave lecture about biochemical changes taking place during ischemic heart disease. This completed knowledge about coronary circulation on single occasion.

83.67% students were in favor of integrated teaching every month. This shows that integrated approach to teach medical students can be an effective educational strategy. This was also concluded by Vyas r, Jacob M et al in their work in 2008⁹ and Shafi (2010)¹⁰. This could be due to the fact that students got more information about a particular topic in short

span rather than over a long time period, which occurs in conventional teaching. Fogarty has described this stage of integration as 'connection'. The disciplines remain separate but the teacher may make explicit connections within the subjects¹¹. Also this form of teaching, being, new, created enthusiasm among students.

Majority of students also appreciated the method, content and presentation of integrated teaching. Integrated teaching offers several advantages; basic sciences are simplified without needless details and taught along with clinical disciplines, giving a composite picture to the students¹².

Integrated teaching has various other advantages like,

There is no fragmentation of knowledge

There is prevention of repetition and wasting of time

Applied knowledge can be imparted to students with basic theoretical knowledge.

Interdepartmental collaboration can be promoted.

Wastage teaching resources is prevented.

The only negative feedback by the students was about the lengthy time that they were supposed to attend. Students themselves gave suggestion about giving them frequent breaks during the whole process of integrated teaching.

Integrated teaching can enhance teacher - student and teacher - teacher interactions, reduce redundant content and integrate disciplines. This is in line with work done by Chan WP, Hsu CY and Hong CY¹³.

CONCLUSION:

This study showed that it was possible to adopt integrated teaching under a conventional curriculum in spite of all the challenges. It is helpful to improve appreciation and application of basic science knowledge. Integrated teaching can definitely save time and energy and can give better vision of the subject.

Our experiences showed that it requires careful planning by faculty to formulate modules for integrated teaching.

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