

EVALUATION OF CASE-BASED TEACHING METHODOLOGY IN ANATOMY FOR UNDER GRADUATE MEDICAL STUDENTS: A CROSS SECTIONAL STUDY

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ABSTRACT

Anatomy should be learned as a dynamic subject for problem-solving and application in the clinical practice towards the delivery of quality health care. Case based discussion is not only improves problem solving but also integrates the psychosocial and ethical aspects of medicine. To this purpose, we have attempted to evaluate the effectiveness of Case based teaching methodology in anatomy for exam going under graduate students. This cross-sectional questionnaire-based study was done for the period of 3 months in the Department of Anatomy at Medical College near Hyderabad. Three paper of case-based discussion modules were prepared for three different anatomic systems of the body by the trained faculty of anatomy. The study was conducted in three sessions for each module. All the students were given the questionnaire, and the response was recorded in the form of yes/no. A feedback questionnaire was adopted from The questionnaire was collected anonymously and entered into Microsoft Excel software for calculating descriptive statistics. The results of the survey are based on student's opinion of the effectiveness of CBD suggested modifications. A total of 150 students participated in this study. 28% accepted that they never formulate the learning objectives before the case discussions. 68.7% agreed that the teaching materials/references or/resources were never shared among the students before the case discussion. 87.5% participants accepted the fact that in their CBD only real patients were incorporated. 72% of the students agreed that content of the case based discussion was distributed, but it never contained the direction of PBL. Case based discussion is a better approach which drives student-centered learning which incorporates integration and practical application of the knowledge of basic science. It can be a very valuable method if taken up as a novel approach along with traditional teaching method.

KEY WORDS: Case based discussion (CBD), Anatomy, Undergraduate Medical Students

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INTRODUCTION

Medicine is a science, as well as an art and repeated exposures with an enhanced experience, will help improve skills and confidence [1]. The traditional theory based

approach acts a very passive role in knowledge deliverance and limits the development of imagination and reasoning skills [2]. Anatomy is one of the important basic subjects in first M.B.B.S subjects and sound knowledge of the

subject with the clear understanding of its clinical applications is important to create the strong foundation of sound clinical practice. Anatomy should be learned as a dynamic subject for problem-solving and application in the clinical practice towards the delivery of quality health care [3]. Case based discussion (CBD) is not only improves problem solving but also integrates the psychosocial and ethical aspects of medicine [4-6]. It is an important student-centric technique where the knowledge is retained with clinical context & integration from relevant discipline [7]. To this purpose, we have attempted to evaluate the effectiveness of Case based teaching methodology in anatomy for exam going under graduate students.

MATERIALS AND METHODS

This cross-sectional questionnaire-based study was done for the period of 3 months during October 2014 to December 2014 in all 1st M.B.B.S students, in the Department of Anatomy at Shadan Institute of Medical Sciences, Hyderabad. IEC has permitted the study. The faculty and students were oriented and introduced to the concept of PBL in case-based discussions. All students willingly participated in the study. IEC has approved the study protocol and Informed consent was obtained from all the students.

Three paper of case-based discussion modules were prepared for three different anatomic systems of the body by the trained faculty of anatomy. The study was conducted in three sessions for each module. The first session was based on discussion of the given case with the predefined objective in the form of questions in small groups. The second session was followed by presentations of the learning and group discussions by each group followed by the final session of evaluation. This survey questionnaire was adopted from the Melveetil S et al. study and Barrow's rating of meeting the educational objectives [8-9].

All the students were given the questionnaire, and the response was recorded in the form of yes/no. A feedback questionnaire was adopted from The questionnaire was collected anonymously and entered into Microsoft Excel

software for calculating descriptive statistics such as mean, standard deviation (SD) and percentages.

RESULTS

A total of 150 students participated in this study. The results of the survey are based on student's opinion of the effectiveness of CBD suggested modifications. 28% accepted that they never formulate the learning objectives before the case discussions. 68.7% agreed that the teaching materials/references or/resources were never shared among the students before the case discussion. Communication on the content and direction of PBL is an important aspect as it helps in the structuring of knowledge and facilitating extraction and understanding of information from various resources. This enhances the learning process as well as clinical performance. 87.5% participants accepted the fact that in their CBD only real patients were incorporated. 72% of the students agreed that content of the cased based discussion was distributed, but it never contained the direction of Problem Based Learning (PBL).

Table 1: Responses to survey-questionnaire.

1	Whether the students formulate learning objectives before the problem-based learning.	28% (42/150)
2	Whether the teaching materials/ resources is shared amongst the students before the case discussion.	68.7% (103/150)
3	Is the content of PBL is distributed to all PG students and facilitators in advance	46.8% (70/150)
4	Is there prior communication on to the "Direction of PBL" to all students and facilitators.	28% (42/150)
5	Are real patients presented at the time of case presentation?	87.5% (130/150)
6	Does the questions and issues that are not answered within the small group forms the basis for further learning and discussion outside the group.	72% (108/150)

DISCUSSION

Due to unavailability of much-published work the results of case-based discussions (CBD) or its component group discussion in anatomy could not be discussed. A similar study on CBL was done by Pawlina W et al. [10] who got the

similar response from the students. In their study, 82% of the students felt that these sessions were a useful method of providing clinical correlations with gross anatomy compared to about 69% of our students.

Dolmans et al. [11] were of the view that students in a problem-based curriculum are provided with many clues and directions that directly or indirectly play the role in their decisions on what to study, such as reference literature, course objectives, lectures, and tests.

In a study done by Sue Ann Miller et al. [12] regarding the understanding of anatomy, they were also of the view that anatomy should be presented and learned as a dynamic basis for problem-solving & for application in the practice and delivery of quality health care. Our studies results were also similar to Praveen R Singh et al. [13].

CONCLUSION

Case based discussion is a better approach which drives student-centered learning which incorporates integration and practical application of the knowledge of basic science. They also showed some interest to learn case based discussions and also for open interactive sessions and regular feedback to assess the effectiveness of teaching the curriculum. It can be a very valuable method if taken up as a novel approach along with traditional teaching method.

Conflicts of Interests: None

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