

Combination of Multiple Teaching Tools in learning Biochemistry: Perceptions of Medical Undergraduate Students

¹Shrirang P Kulkarni, ²Vidya S Patil, ³Vijayetha P Patil, ⁴Deepti G Ingleshwar, ⁵Alagilwada S Shilpasree, ⁶Axita C Vani, ⁷Praveen K Shetty, ⁸Rakesh T Muddaraddi, ⁹Dhiraj J Trivedi, ¹⁰Anil B Bargale, ¹¹Pramod S Kamble

ABSTRACT

Introduction: Multiple teaching tools for medical undergraduates in biochemistry play a pivotal role for overall understanding of the subject and its applicability in clinical medicine. Students must be able to apply the knowledge of biochemistry effectively in dealing with real-life case scenarios.

Objectives: To implement combination of multiple teaching tools topic wise; to evaluate the students' perception toward effectiveness of combination of tutorials, case-based learning (CBL) sessions, video-based interactive sessions (VBIS) with demonstrations when they were supplemented and coordinated with didactic lectures (DLs) at regular intervals and also to evaluate the students' perception toward usefulness of formative assessments.

Materials and methods: Teaching methods were formulated for Carbohydrate metabolism and Genetics including multiple teaching tools. All 100 students of Phase 1 MBBS course were included. Formative assessments were conducted simultaneously with feedback to students. Students' perception was collected regarding the effectiveness and usefulness of multiple teaching tools and formative assessments by a pretested questionnaire.

Results: Regarding coordinated approach with multiple teaching tools like DL, tutorial, practical and CBL, most students felt that it was useful toward better understanding of the subject (83%), good retention of the subject (79%), improved communication skills (70%), and effective preparation for course end exams (83%). Students expressed that they want to have formative assessments regularly with feedback.

Conclusion: Using a combination of multiple teaching tools separately for each topic improves the understanding and retention of the contents better as perceived by the students. Students felt that formative assessment with feedback reinforces their ability to perform better.

Keywords: Case-based learning, Formative assessment, Multiple teaching tools, Tutorials in biochemistry, Video-based interactive learning.

How to cite this article: Kulkarni SP, Patil VS, Patil VP, Ingleshwar DG, Shilpasree AS, Vani AC, Shetty PK, Muddaraddi RT, Trivedi DJ, Bargale AB, Kamble PS. Combination of Multiple Teaching Tools in learning Biochemistry: Perceptions of Medical Undergraduate Students. *Indian J Med Biochem* 2018;22(1):41-46.

Source of support: Nil

Conflict of interest: None

^{1,7,9}Professor, ²Professor and Head, ^{3,6,8}Associate Professor
^{4,5}Assistant Professor, ^{10,11}Tutor

¹⁻¹¹Department of Biochemistry, SDM College of Medical Sciences & Hospital, Dharwad, Karnataka, India

Corresponding Author: Vidya S Patil, Professor and Head
Department of Biochemistry, SDM College of Medical Sciences & Hospital, Dharwad, Karnataka, India, Phone: +919845641762
e-mail: vidyaspatil02@gmail.com