

## Infographics to Identify, Diagnose, and Review Medically Important Microbes and Microbial Diseases: A Tool to Ignite Minds of Undergraduate Medical Students

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**Abstract :** Background: Image-based teaching-learning module is innovative student-centered andragogy. The objective of our study was to explore medical students' perception of effectiveness of image-based learning strategy in promoting their lifelong learning skills and evaluate its impact on improving students' exam grades. Methods: A prospective single-cohort study was conducted on undergraduate medical students of the academic year 2021-22. The image-based teaching-learning module was assessed through pretest, posttest, and exam grades. Students' feedback was collected through a predesigned questionnaire on a 3-point Likert Scale. The reliability of the questionnaire was assessed using Cronbach's alpha coefficient test. In-Course Exam-4 results were compared with In-Course Exams 1, 2, and 3. Correlation coefficients were worked out wherever relevant to find the impact of the exercise on grades. Data were collected, entered into Microsoft Excel, and statistically analyzed using SPSS version 22. Results: In total, 127 students were included in the study. The posttest scores of the students were significantly high ( $24.75 \pm$ ) as compared to pretest scores ( $8.25 \pm$ ). Students' opinion towards the effectiveness of image-based learning in promoting their lifelong learning skills was overwhelmingly positive (Cronbach's alpha for all items was 0.756). More than 80% of the students indicated image-based learning was interesting, encouraged peer discussion, and helped them to identify, explore, and revise key information and knowledge improvement. Nearly 70% expressed image-based learning enhanced their critical thinking and problem-solving skills. Nine out of ten students recommended image-based learning module for future topics. Conclusion: Overall, Image-based learning was found to be effective in achieving undergraduate medical students learning outcomes. The results of the study are in favor of the implementation of Image-based learning in Microbiology courses. However, multicentric studies are required to authenticate our study findings.

**Keywords :** active learning, knowledge, medical education, microbes, problem solving

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