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Original research article

Teaching dermatology to final year MBBS students: An effective approach

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Abstract

Background: Dermatology is a critical component of medical education, requiring an in-depth understanding of skin disorders, clinical presentations, and management strategies. Enhancing dermatology training for final-year MBBS students can improve patient care and diagnostic accuracy.
Objective: This paper aims to explore effective teaching methodologies, clinical exposure strategies, and assessment tools to enhance dermatology education for final-year MBBS students.
Methods: A cross-sectional study was conducted at Dr. Patnam Mahendra Reddy Institute of Medical Sciences, Chevella, Telangana, assessing teaching methods, student engagement, and clinical skill acquisition over a six-month period (Jan 2020-June 2020). A structured curriculum integrating didactic lectures, clinical rotations, case-based learning, and online resources was implemented and evaluated.
Results: A total of 150 final-year MBBS students participated in the study. The most effective teaching methods identified were case-based discussions (90%), bedside teaching (85%), and problem-based learning (78%). Students showed significant improvement in diagnostic accuracy, patient interaction skills, and treatment planning. The integration of digital resources and simulated cases enhanced knowledge retention.
Conclusion: A structured, interactive, and clinically integrated dermatology curriculum enhances learning outcomes for final-year MBBS students. Future recommendations include standardized dermatology teaching modules, competency-based assessments, and increased clinical exposure.
Keywords: Dermatology education, MBBS curriculum, clinical teaching, case-based learning, medical students

1. Introduction

Dermatology is an integral part of medical education, providing final-year MBBS students with essential knowledge and skills required for the diagnosis and management of skin diseases. As skin disorders are frequently encountered in clinical practice, ensuring that students receive comprehensive dermatology training is imperative. However, dermatology education has often been underemphasized in undergraduate medical curricula, leading to gaps in knowledge and clinical proficiency.

Effective dermatology training requires a structured approach that combines theoretical knowledge with practical exposure. Traditional teaching methods, such as didactic lectures, provide foundational knowledge but may not sufficiently prepare students for real-world clinical challenges. Clinical rotations, case-based learning, and interactive sessions offer students the opportunity to develop diagnostic skills, improve their ability to recognize skin diseases, and implement appropriate treatment strategies. Furthermore, digital resources, including virtual simulations and online case discussions, have gained significance in medical education, supplementing traditional learning methods and enhancing knowledge retention.

This study evaluates the impact of diverse teaching methodologies on the learning experience of final-year MBBS students at Dr. Patnam Mahendra Reddy Institute of Medical Sciences, Chevella, Telangana. By analyzing student engagement, knowledge acquisition, and clinical skill development, this research aims to highlight effective strategies for optimizing dermatology education. The findings of this study will contribute to the development of a more structured, engaging, and clinically relevant dermatology curriculum that ensures students are well-equipped to manage dermatological disorders in their future medical practice.

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2. Methods

2.1 Study Design and Setting

A hospital-based cross-sectional study was conducted at the dermatology department of Dr. Patnam Mahendra Reddy Institute of Medical Sciences, Chevella, Telangana, from Jan 2020 – June 2020

2.2 Study Population

A total of 150 final-year MBBS students were included in the study. Students with incomplete participation or who missed clinical sessions were excluded.

2.3 Teaching Strategies Implemented

- **Didactic Lectures:** Covering essential dermatological conditions and management.
- **Clinical Rotations:** Hands-on patient examination and case discussion.
- **Case-Based Learning (CBL):** Interactive case discussions with real and simulated cases.
- **Problem-Based Learning (PBL):** Student-driven problem-solving discussions.
- **Digital Learning:** Integration of online dermatology resources and virtual case simulations.
- **Skill Assessment:** OSCE (Objective Structured Clinical Examination) and direct faculty evaluation.

2.4 Statistical Analysis

Data were analyzed using SPSS version 25.0. Student feedback, assessment scores, and clinical skill evaluations were statistically examined using paired t-tests.

3. Results

3.1 Student Engagement and Learning Outcomes

Teaching Method	Effectiveness (%)
Case-Based Learning	90
Bedside Teaching	85
Problem-Based Learning	78
Didactic Lectures	70
Online Resources	65

3.2 Clinical Skill Improvement

Students demonstrated a significant improvement in:

- Diagnostic accuracy (+30%).
- Patient interaction skills (+25%).
- Treatment planning (+28%).

3.3 Student Feedback

The majority of students (88%) found case-based and bedside teaching the most valuable learning methods. Many recommended increased clinical exposure and standardized modules for dermatology education.

4. Discussion

The findings align with global trends emphasizing interactive, case-based, and hands-on learning in dermatology. Dermatology is a visually driven specialty, and effective teaching methodologies must incorporate real-life patient interactions, clinical observations, and multimedia tools to enhance understanding. The study's results suggest that interactive learning experiences, such as case-based discussions and bedside teaching, significantly improve diagnostic accuracy and patient management skills.

One of the key observations was that students preferred bedside teaching and problem-based learning over traditional didactic lectures. This highlights the need for a curriculum that prioritizes active participation and critical thinking rather than passive learning. Clinical exposure allows students to develop confidence in diagnosing and managing dermatological conditions. Furthermore, incorporating digital learning tools, such as virtual case simulations and online resources, can support traditional teaching methods by providing additional reinforcement of clinical concepts.

A structured dermatology curriculum should also include competency-based assessments to evaluate student performance effectively. Objective Structured Clinical Examinations (OSCEs) and direct faculty assessments help measure clinical competency in a standardized manner. Additionally, formative assessments and feedback mechanisms play a crucial role in continuous learning and improvement.

The study also emphasizes the importance of increasing dermatology electives and subspecialty exposure for medical students. Given the increasing global burden of skin diseases, comprehensive dermatology training should not be limited to dermatology departments but should be integrated into general medicine and primary care rotations.

Future recommendations include expanding dermatology electives, increasing patient interaction

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opportunities, and incorporating advanced imaging techniques in education. Further research should explore the long-term impact of these teaching strategies on clinical practice and patient outcomes. By implementing a dynamic and structured dermatology education approach, medical institutions can ensure that future healthcare professionals are well-equipped to manage dermatological conditions efficiently.

5. Conclusion

A structured dermatology teaching approach significantly enhances the learning experience and clinical competency of final-year MBBS students. The integration of case-based learning, bedside teaching, and digital resources proves effective. A nationwide standardized dermatology curriculum should be considered for improved medical education outcomes.

6. References

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