MINI REVIEW

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Bedside clinical teaching: Enhancing medical education through direct patient interaction

Umakanth M[1]

[1] Department of Clinical Sciences, Faculty of Health-Care Sciences, Eastern University, Sri Lanka

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Correspondence to:
Umakanth M
umakanthm@esn.ac.lk

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ABSTRACT

Bedside clinical teaching offer learners the invaluable opportunity to apply theoretical knowledge in the context of authentic clinical encounters. This article aims to explore the historical roots, contemporary practices and innovative methodologies of bedside clinical teaching, revealing its significance in shaping the next generation of healthcare professionals. Medical education has had a paradigm shift from apprenticeships to simulations. Bedside teaching emphasizes critical thinking, clinical reasoning, and communication skills, aligning with contemporary healthcare priorities and educational standards. Clinical relevance, skill development, professionalism, interdisciplinary collaboration, feedback and reflection are advantages of bedside teaching. However, time constraints, patient privacy, variable patient availability, hierarchy and power dynamics, limited generalizability are some of the challenges in bedside teaching. Despite these challenges, the enduring benefits of bedside teaching justify its continued prominence in medical curricula. By embracing innovative methodologies and adapting to evolving educational paradigms, bedside teaching will continue to shape competent, compassionate, and skilled healthcare providers for generations to come.

Introduction

Bedside clinical teaching stands as a timeless pillar of medical education, epitomizing the essence of experiential learning by immersing students in real-life patient care settings. This educational approach transcends textbooks and lecture halls, offering learners the invaluable opportunity to apply theoretical knowledge in the context of authentic clinical encounters (Dornan et, al. 2006). In this article, we delve into the historical roots, contemporary practices, advantages, disadvantages, and innovative methodologies of bedside clinical teaching, illuminating its enduring significance in shaping the next generation of healthcare professionals.

Teaching in Ancient Times:
In antiquity, medical education unfolded through apprenticeships, where aspiring healers apprenticed under seasoned practitioners. Bedside teaching formed the cornerstone of this pedagogical model, as students accompanied their mentors on patient rounds, absorbing clinical wisdom through observation, participation, and hands-

on experience (Irby and Wilkerson 2008). These formative experiences fostered not only medical expertise but also the ethical values, compassion, and interpersonal skills essential for competent practice.

Difference in Teaching Now:

While the essence of bedside teaching remains unchanged, modern medical education has evolved to integrate technological innovations, evidence-based practices, and patient-centered approaches. Today, bedside teaching harnesses multimedia resources, standardized patient encounters, and interdisciplinary collaboration to enrich the learning experience (Ramani and Leinster 2008). It emphasizes critical thinking, clinical reasoning, and communication skills, aligning with contemporary healthcare priorities and educational standards.

Advantages of Bedside Teaching:

1. *Clinical Relevance:* Bedside teaching bridges the gap between theory and practice, reinforcing the relevance of theoretical concepts to patient care (Branch and Paranjape 2002). Real-life clinical scenarios serve as powerful teaching tools, enabling learners to grasp complex medical principles in a contextually meaningful manner.
2. *Skill Development:* Learners refine their clinical skills through hands-on practice, guided by expert instructors. Direct interaction with patients cultivates history-taking, physical examination, and diagnostic reasoning skills, laying the foundation for competent clinical practice (Steinert et, al. 2006).
3. *Professionalism:* Bedside teaching nurtures professional values, empathy, and ethical decision-making by immersing learners in authentic patient care experiences. Witnessing exemplary clinical conduct inspires learners to embody professionalism and compassion in their interactions with patients (O'Brien and Poncelet 2010).
4. *Interdisciplinary Collaboration:* Bedside rounds facilitate collaboration among healthcare team members, fostering a holistic approach to patient care. Learners engage with diverse perspectives, contributing to comprehensive care plans and interdisciplinary teamwork (Wijnen-Meijer et, al. 2010).
5. *Feedback and Reflection:* Immediate feedback from instructors and peers promotes continuous learning and self-improvement. Reflective practice encourages learners to critically evaluate their performance, identify areas for growth, and refine their clinical skills iteratively (Berkhout et, al. 2018).

Disadvantages of Bedside Teaching:

1. *Time Constraints:* Busy clinical settings may limit the duration and depth of bedside teaching sessions, impacting the quality of the learning experience (Lave and Wenger 1991). Competing clinical demands may curtail the availability of instructors and patients for teaching purposes.
2. *Patient Privacy:* Some patients may feel uncomfortable with the presence of learners during sensitive examinations or discussions, raising concerns about confidentiality and consent (Norcini and Burch 2007). Balancing educational objectives with patient privacy considerations poses a challenge for instructors.
3. *Variable Patient Availability:* The unpredictable nature of patient presentations may limit the consistency and diversity of learning opportunities (Heeneman et, al. 2015). Availability of suitable patients for teaching purposes may vary, affecting the breadth of clinical exposure for learners.
4. *Hierarchy and Power Dynamics:* Learners may feel intimidated or inhibited in the presence of senior clinicians, hindering active participation and engagement (Swanwick 2005). Addressing hierarchical barriers is essential to creating a supportive learning environment conducive to open dialogue and collaboration.

5. *Limited Generalizability:* Bedside teaching experiences may not fully represent the diversity of clinical presentations encountered in practice (Boud and Middleton 2003). Learners may excel in managing common conditions prevalent in teaching hospitals but lack exposure to rare or atypical cases.

Methods of Teaching:

1. *Case-Based Discussions:* Instructors present clinical cases during bedside rounds, prompting learners to analyze differential diagnoses, interpret diagnostic tests, and formulate treatment plans collaboratively (Koh et, al. 2008).
2. *Direct Observation and Feedback:* Instructors provide immediate feedback on learners' clinical skills and communication through direct observation during patient encounters (Bordage and Page 2018). Constructive feedback enhances learning and skill development.
3. *Simulation Exercises:* Simulated patient encounters allow learners to practice clinical skills in a controlled environment (Ellaway and Masters 2008). Scenarios such as simulated cardiac arrests or obstetric emergencies provide opportunities for hands-on learning and crisis management training.
4. *Point-of-Care Ultrasound (POCUS) Training:* Teaching sessions on bedside ultrasound techniques and interpretation enhance learners' diagnostic proficiency (Ellaway and Masters 2008). Practical training in POCUS prepares learners for real-world clinical scenarios, such as assessing cardiac function or identifying fluid collections.

Conclusion

Bedside clinical teaching remains an indispensable component of medical education, fostering the integration of theory and practice, and nurturing essential clinical skills and professional values. Despite challenges such as time constraints and privacy concerns, the enduring benefits of bedside teaching justify its continued prominence in medical curricula. By embracing innovative methodologies and adapting to evolving educational paradigms, bedside teaching will continue to shape competent, compassionate, and skilled healthcare providers for generations to come.

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