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Editorial**Beyond the Lab: The Enduring Power of Medical History and Physical Examination**

1. Dr. Md. Zakir Hossain, Professor, Department of Medicine, TMSS Medical College, Bogura.

Introduction

In recent decades, advancements in medical technology have profoundly transformed diagnostic and therapeutic approaches. As our understanding of molecular pathophysiology and genetics improves, we are beginning to understand the pathophysiology of many diseases. The advent of sophisticated laboratory testing, innovative diagnostic methods, and advanced imaging techniques has significantly enhanced our ability to identify a range of illnesses with more accuracy and speed.^{1,2} Furthermore, the progress of novel therapeutic methods has enabled the treatment of diseases formerly deemed untreatable. These groundbreaking discoveries highlight a shift in the healthcare landscape, where reliance on physicians' clinical judgment seems to diminish in some contexts³.

The Significance of Clinical Proficiency in Medicine

In medicine, each patient presents a unique clinical challenge to the physician. The ability to discern subtle indications within the patient's detailed history and physical examination is a hallmark of a skilled physician.^{1,2,3} Diagnosis requires the synthesis of data from relevant investigations; yet, studies demonstrate that a comprehensive collection of medical history and physical examination are essential elements of the diagnostic process.^{1,2,3} Research by Peterson et al. revealed that clinical history alone led to a clear diagnosis in 76% of cases, while the physical examination contributed just 12%. In contrast, laboratory investigations aided to reach a diagnosis in just 10% of instances. Subsequent analysis indicates that 60% to 70% of patients are accurately diagnosed by the correlating medical history and physical examination. Modern diagnostic tests are significantly linked to a probability of inaccurate results, estimated at 6% to 9%.^{4,5} A prospective research in India indicated that 78.58% of patients were diagnosed only from clinical history, whereas physical examinations

and diagnostic investigations had a role in the final diagnosis is just 8.17% and 13.27% of cases, respectively. This study underscores the critical need for thorough history-taking and clinical assessment, which may ascertain the need for further testing. A judicious clinical approach that spares both patients and the healthcare system from unnecessary "batteries of tests" is essential. Interpreting test results within the relevant clinical context is crucial, since decisions based only on laboratory findings are sometimes inadequate.⁴ A skilled physician has the discernment to disregard certain test results that may not align with the clinical presentation. Moreover, acquiring a patient's history and conducting a physical examination are crucial for establishing and maintaining the physician-patient relationship. History taking provides patients the opportunity to engage in open dialogue while fostering a sense of comfort. These components are essential for acquiring potentially vital diagnostic clues and for enhancing patients' confidence in confronting the psychological dimensions of their therapy.⁵ Robbins et al. investigated the correlation between medical practices and patient happiness in outpatient environments, finding that patients report the greatest satisfaction when offered thorough exams, health education, and clear information on treatment alternatives. While few social science studies suggest potential negative effects of physical exams on patient experiences, most medical literature emphasizes the significance of physical examinations in establishing a strong physician-patient relationship.^{5,6}

Two different health system

The UK's National Health Service (NHS) more focused on a consistent, cooperative clinical approach in providing health services, with a focus on communication that puts the patient first. This technique requires that doctors and other medical

professionals constantly and rigorously improve their clinical skills throughout their careers. These kinds of practice make sure that healthcare workers are up-to-date and skilled in the latest standards of treatment.^{5,6}

On the other hand, the US healthcare system typically focuses on specialized, technology-based methods. This strategy puts practitioners greater dependency and focus on updated detailed lab data of patients. It is crucial to recognize that the US system also attains excellent patient satisfaction ratings in effective disease management.¹⁻⁶

The comparison of these two disparate healthcare models highlights substantial differences in focus—while the NHS adheres to a framework that prioritizes team dynamics and ongoing practice of clinical skills, the US system emphasizes specialization and technological progress.¹⁻⁶

Determinants and Consequences of Substandard Clinical Skill

The monetization of healthcare and the rise of consumerism in patient care have considerably diminished the doctor-patient relationship. Contemporary medical practice has shifted from a holistic and humanistic paradigm to an emphasis mostly on organ-specific and disease-oriented approaches. This alteration has shifted bedside interactions to desk of conference rooms, focusing on the analysis of laboratory data and imaging results. A study revealed that internal medicine interns allocate just 12% of their time to direct patient care.⁴⁻⁶ The decline in clinical skills among physicians is becoming concerning. Contributing factors to the issue encompass accelerated patient rounds due to time constraints, insufficient bedside teaching, diminished confidence in the clinical examination skills of medical educators, anxiety regarding the exposure of shortcomings in novice practitioners, and an overreliance on laboratory results.^{3,4} Historically, throughout the 1960s, 75% of medical education took place at the bedside; however, this has markedly decreased to just 17% in modern times. This strategy produces a group of physicians without the critical

thinking skills necessary for developing effective treatment programs. In the pursuit of rapid diagnosis, practitioners often depend on laboratory tests and imaging, compromising comprehensive clinical assessments and allowing technology to overshadow critical clinical reasoning. Modern illnesses are often seen as just collections of abnormal test results. Poor physical examination skills have been shown to lead to the inappropriate use of diagnostic tests and improper treatment, hence increasing the strain on healthcare resources. This is particularly troublesome in resource-limited settings.^{5,6} The lack of comprehensive physical examinations has resulted in missed or delayed diagnoses in 76% of cases, misdiagnoses in 27%, improper treatments in 18%, excessive diagnostic costs in 25%, and exposure to unwarranted radiation in X ray and CT scan or contrast studies in 17%. A meta-analysis indicates a troubling average overutilization rate of diagnostic testing at 20.6%. Miyakis et al. reported that 67.9% of laboratory tests ordered before to any therapies were non-contributory to inpatient care, a finding supported by a single-center study in India that revealed a similar prevalence of unnecessary testing. The over use of diagnostic testing imposes additional strain on financially constrained healthcare facilities. Oyedokun et al. have emphasized the critical importance of clinical skills in medical practice within the African context.⁴⁻⁶

Strategies for Improving Clinical Competencies

The enhancement of clinical abilities in medicine has garnered significant attention in literature, underscoring the need for healthcare practitioners to excel in their roles. A fundamental principle is, practice fosters proficiency. Both trainers and trainees must dedicate time to patient interactions to improve their clinical competencies. Traditionally, bedside training has been essential for skill development; however, many structured approaches for improving clinical competence are also important.¹⁻⁶ Clinical skill laboratories provide essential resources throughout the early stages of medical education, facilitating the foundational development of vital competencies. Furthermore, simulation-based learning has emerged as an innovative method that substitutes real patient

interactions with virtual scenarios, allowing learners to engage in experiential education within a controlled environment. Peyton's four-step strategy augments this paradigm by including direct supervision and constructive feedback from educators, so enhancing the learning process. Moreover, problem-based learning is a significant pedagogical method that improves knowledge retention, critical thinking, and communication abilities in medical students.⁴⁻⁶

Research indicates that systematic clinical observation may significantly improve clinical skills, particularly in time-constrained settings. To improve the effectiveness of these educational activities, it is crucial to train academics in efficient clinical teaching methods, particularly emphasizing bedside methods. This holistic method of medical education prepares future physicians to tackle the complexities of the healthcare environment while emphasizing the need of continuous professional development in clinical training. A unified and systematic approach to clinical skills training enhances the educational experience for medical practitioners, hence improving patient care. Continuous engagement and discussion about these educational frameworks are essential for the advancement of clinical competence in medicine¹⁻⁶.

Conclusion

In clinical practice, it is crucial to acknowledge that reliance only on a physician's skill and intuition might lead to mistake. This often occurs when clinicians formulate their judgments mostly on clinical observations, disregarding the insights offered by novel diagnostic investigations, artificial intelligence. Utilizing modern diagnostic tests may enhance accuracy, providing a more comprehensive understanding of a patient's health. Therefore, while

the emergence of artificial intelligence presents encouraging opportunities, we must be cautious about our reliance on these technologies. Achieving balance is crucial by judiciously using our clinical expertise and diagnostic tools to effectively address clinical challenges. A approach that combines human judgment with technological innovation will provide best outcomes in patient care.

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