

Archives of Surgical Research | Systematic Literature Review**Why the Art of Clinician Is Dying? Opinions & Judgments: A Systematic Literature Review**

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BACKGROUND The use of basic medical knowledge has been used since the time of Hippocrates by clinicians to manage patients. This medical knowledge can be divided into theoretical and practical knowledge, both of which are gained during the medical school years, by reading various course and reference books and further supplemented by learning clinical skills such as a physical examination of the patient. All such skills get polished throughout the medical school by attending morning rounds, spending time at the patients' bedside, performing a hands-on examination. But during recent years, there has been a decline in appropriate clinical skills acquired by clinicians due to many reasons and this interplay of several factors has resulted in the high dependence of medical professionals on modern medical technology. All these factors are a prime concern for the upcoming generation of doctors, as they are a threat to the humanitarian that must reside within every clinician.

METHODS A literature search was carried out regarding the decline of physical examination and clinical skills in modern-day medical practice. 1566 articles were identified through Google Scholar, Pubmed, and ERIC by using the keywords, 'Physical Examination' and 'Clinical Skills' out of which 21 are included in this literature review.

RESULTS The gradual decline in optimal knowledge of clinical skills and physical examination can be attributed to many factors, one for example, is sub-standard teaching practices being carried out during medical school and training programs. Clinicians fail to understand the therapeutic effect of a properly performed physical examination on the patient and its implication in the management plan. Moreover, the burden on a senior clinician is very high, leading to burn-out of the doctor, making him/her incompetent to teach young doctors and trainees during bedside rounds. This has led to the sole idea that such manoeuvres are time-consuming and tiring. Therefore, the clinicians have developed a low threshold to prefer laboratory investigations to diagnose and manage patients leading to the gradual reduction in clinical skills. This all makes us in dire need of doctors with a humanitarian spirit, who use their senses to at least probe a diagnosis rather than ordering a test without any clinical knowledge of the patient at hand.

CONCLUSIONS Identification of these influencing factors on the clinical skills of doctors needs further evaluation to properly understand the precise reasons for the decline in physical examination practices by doctors. The significance of advancements in medical technology and their influence on a doctors' clinical skills need further evaluation.

KEYWORDS Decline of clinical skills; Medical Technology; Physical Examination

HOW TO CITE: Jamil F, Farooqi S, Waseem T. Why the Art of Clinician Is Dying? Opinions & Judgments: A Systematic Literature Review. *Archives of Surgical Research*. 2020;1(1):55-60.<https://doi.org/10.48111/2020.01.09>

Systematic Review

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The use of clinical reasoning to manage a patient is being used since long ago. The clinical assessment began during the ancient times of Egyptians, Babylonians, and Indians, their findings depended on their abilities to hear, see, and feel to reach a working diagnosis¹. This clinical assessment includes obtaining a detailed history of the complaint and performing a relevant physical examination to establish a working diagnosis until

adjunctive laboratory testing or imagining is done to confirm the diagnosis.

Clinical history includes different aspects of patients present and past medical events and a thorough physical examination generally includes inspection, palpation, percussion, and auscultation which can be further extended depending upon the presenting problem. A humanitarian clinician, as postulated by Sasser, is the one who perceives practical data from examining the patient which can be used

to provide treatment and care to both the patient and his family². Clinical skills like carrying out a physical examination, to help form a diagnosis should be taught during the time doctors spend in medical schools but recently as evidenced by several studies,³ students severely fail to understand the utmost importance of a properly taken history and physical examination. Hence, the information collected through close-ended questions in the history is fruitless, making it difficult to collect specific details which are essential to clinical decision making⁴. Knowing how and when to perform a certain physical test is very critical while treating a patient and the inability to realize this, is why students fail to perform a successful and fruitful physical examination⁵. Medical students continue to become residents and even practice medicine with these deficiencies. Fred called such people hyposkilliacs, meaning physicians who cannot obtain an adequate history, don't know how to perform an authentic physical examination, failing to relate the information they collect, and finally unable to create a workable management plan. Such physicians do not spend time with their patients. They swiftly treat everybody without pondering upon the natural course of the disease⁶.

Interaction with the patient is a distinctive experience both for the physician and the patient, making certain that it will culminate in the information necessary for proper diagnosis and management of the patient. But in recent times medical trainees and physicians spend very little time interacting with patients, resulting in the reduced practice of clinical skills which in turn leads to a low number of clinicians confident in their knowledge of examination skills⁷.

It is a general agreement that there has been a decline in ample history taking accompanied by a shortage of an in-depth physical examination in medical practice. This can be attributed to the advancements in medical technology which have affected the doctor-patient relationship adversely.⁸ Moreover, the practice of a hands-on approach in medical schools and residency programs is progressively declining, which makes the clinicians incompetent to perform a basic physical examination hence, they're inclined towards the laboratory and imaging studies as a means for diagnosing patients⁹. The purpose of this literature review is to analyze all available data related to why there is a gradual decline in the practice of physical examination.

METHODS

To analyze the literature, a qualitative meta-synthesis approach was used. This approach was specifically selected to identify, summarize, and review the relevant qualitative data to address the research question.

Literature Search Strategy:

A literature search was done through PubMed, ERIC, and Google Scholar. The keywords used were "clinical skills", and "physical examination". Additionally, the reference research

papers were also included for a comprehensive literature review.

Inclusion of Articles:

Following PRISMA guidelines, 1566 articles were identified out of which 456 articles were initially selected after looking at the relevant titles for eligibility and 21 articles were used for thematic analysis after inspecting the abstracts independently of each article. The inclusion criteria for this review were the articles that described the importance of physical examination, its decline in medical practice, and the impact of advancements in medical technology on the physical diagnosis. The article selection process is discussed in diagram 1.

Data Extraction and Analysis:

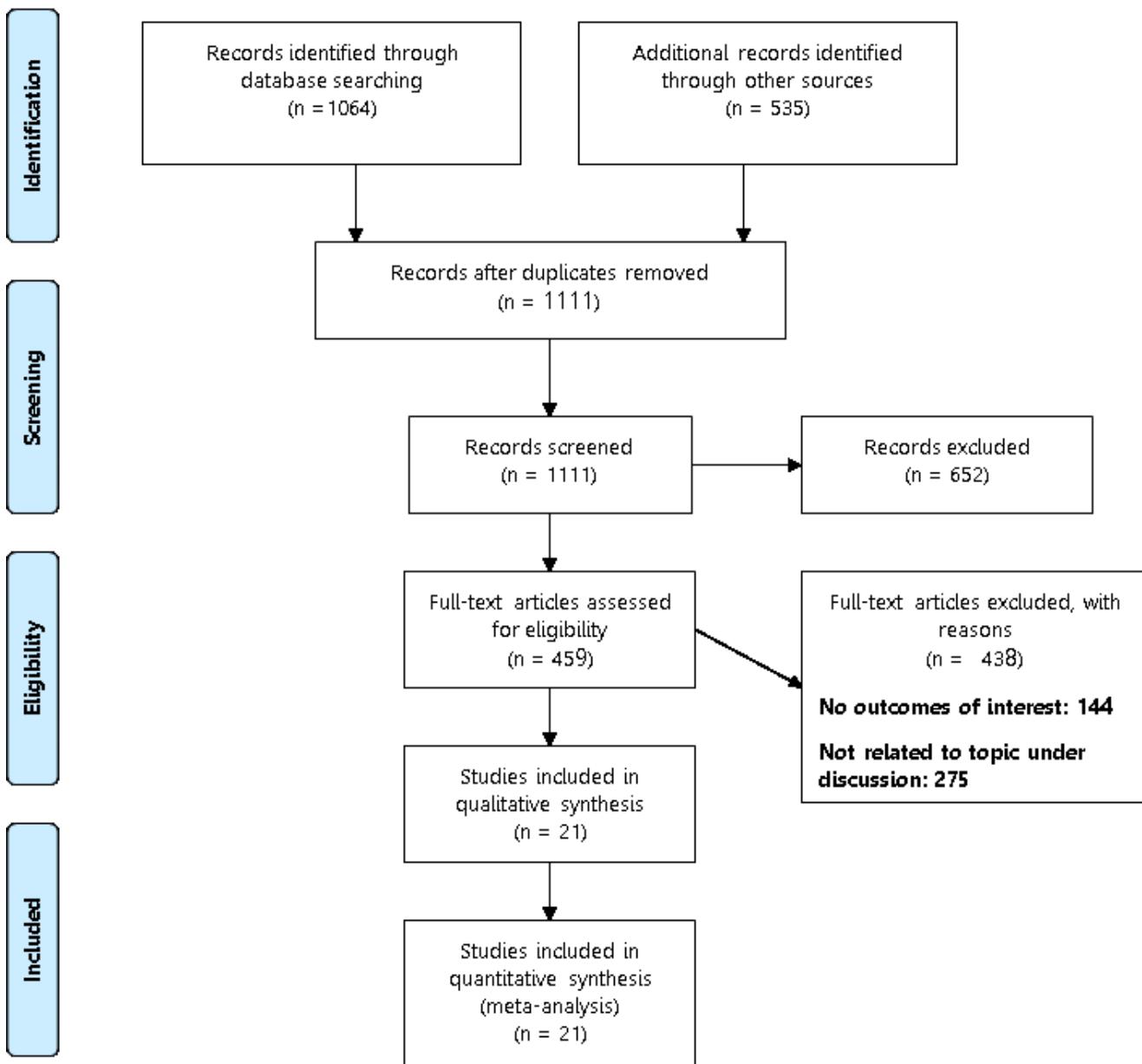
The articles were thoroughly analyzed, and a thematic analysis of each article was done. The relevant information from each paper was physically coded. These codes were classified as themes. The information in each paper was identified according to the themes. These recurrent themes and their relevant article are described in the table below.

RESULTS & DISCUSSION

Clinical Judgment and Clinical Knowledge of Physician:

An unbiased and astute clinical judgment of the doctor is necessary for proper doctor-patient communication, diagnosis, and further treatment planning of the patient¹⁰. A doctor should be equipped with sufficient clinical knowledge and skills which is critical for a good history and physical examination highlighting the patient's chief complaint and directing towards a working diagnosis¹¹. Despite the advancements in technology, clinical judgment plays a vital role in managing a patient, as many diseases may be diagnosed with an efficiently performed physical examination, way before they show up on imaging or lab testing⁹.

It's a continuous observation that there has been a significant decline in clinical knowledge of physicians starting from the medical students and even among the residents, which go on to practice medicine. Several causes can be identified for this lack of proper clinical knowledge including, excessive reliance on tests, limited time for teaching the students including very less time spent next to the patient. Medical schools are inefficient in promoting an environment for the nourishment of clinical skills in undergraduates³. Moreover, even during the residency years, there is no proper supervised training offered to the residents where their history taking and bedside skills could flourish, hence resulting in incompetent doctors, who do not feel confident about their clinical knowledge and are reluctant to perform physical examinations and lean more towards ordering a laboratory test^{12 6}. This lack of unsupervised training produces an unconfident clinician who is unsure of how and when to perform a physical exam, which results in a low threshold to order laboratory tests¹³.

Diagram 1: Prisma Flow Chart

The attitude of Clinician:

Whenever attending a patient, good rapport building is key to a positive doctor-patient relationship. This involves, listening to the patient, validating his/her concerns, and making the patient comfortable. Good history taking skills and appropriate physical examination knowledge is obligatory to develop a promising doctor-patient relationship, which in turn results in better health outcomes¹⁴. Despite the importance of history-taking and physical examination, clinical skills education has decreased since the

1960s, with a lot of deficiencies in the training of medical students and residents alike¹⁵.

The emerging generation of doctors profoundly lacks in exhibiting efficient clinical skills, making their patient management highly dependable on laboratory testing. Such doctors are quick to order labs but fail to realize when to order one or how to interpret the results. This shortfall of competent doctors can be attributed to faulty training at both medical schools and during residency programs⁶. Clinicians nowadays lack the basic emotion of empathy and benevolence, effecting how they practice medicine overall.

TABLE 1: Thematic Analysis of the Literature

Year	Article	Author	Themes Identified
2018	The Outpatient physical exam	Artandi, Maja K. Stewart, Rosalyn W.	Use of prior clinical knowledge to carry out a proper physical exam leading to a working diagnosis
2011	Clinical judgement and the medical profession	Kienle, Gunver S. Kiene, Helmut	Role of gestalt clinical knowledge in patient management and the future of medicine
2003	Assessing Physical Examination Skills of Senior Medical Students: Knowing How versus Knowing When	Wilkerson, Luann Lee, Ming	Importance of teaching medical students when and how to perform a reasonable clinical examination
2018	The decline of clinical skills: a challenge for medical schools	Faustinella, Fabrizia Jacobs, Robin J.	Negligence in teaching of just clinical knowledge in medical schools and residency programs
2012	The stethoscope as metaphor	Mangione, Salvatore	Casual attitude of clinicians
2005	Dissatisfaction with medical practice	Fred, Herbert L	Poor clinical knowledge of medical professionals
2007	Diagnostic tools and the hands-on physical examination	Olson, Douglas P; Roth, Katalin E	Influence of advancements in technology on doctor patient relationship
2016	Physical Examination and the Physician-patient Relationship: A Literature Review	Iida, Junko Nishigori, Hiroshi	Impact of an adequate physical examination on patient
2010	The accuracy of the physical examination for the detection of lower extremity peripheral arterial disease	Wj, David; Bsch, Armstrong Rn, Colleen Tobin Matangi, Murray F	Why clinical skills should be preferred when ordering a lab test
2018	Treat the Patient, Not the Rule Book.: The Art of Psychopharmacology!	Iida, Junko; Nishigori, Hiroshi	Importance of equitable clinical understanding while treating a patient
2010	Where did the day go? - A time-motion study of hospitalists	Tipping, Matthew D., Forth, Victoria E.; O'Leary, Kevin J.; Malkenson, David M., Magill, David B., Englert, Kate; Williams, Mark V.,	Estimation of total hours actually dedicated towards direct patient interaction
2017	Importance Of Thorough Physical Examination: A Lost Art	Asif, Talal; Mohiuddin, Amena; Hasan, Badar Pauly, Rebecca R	Time constraints affecting an adequate physical exam considering the organizational aspect of the hospital
2016	Clinical history-taking and physical examination in medical practice in Africa: Still relevant?	Oyedokun, Ayo; Adeloye, Davies;Balogun, Olanrewaju	Proper use of relevant labs and investigations
2007	The Lost Art of Clinical Skills	Feddock, Christopher A.	In-efficient physician knowledge Misuse of technology
2016	Will Medical Technology Deskill Doctors?	Lu, Jingyan	Overreliance of physicians on medical technology and Unnecessacy medical testing
2011	Does Health Information Technology Dehumanize Health Care? Virtual Mentor	Bailey, James E	Dependency on medical technology Lack of proper clinical judgment in physicians
1998	The rise and fall of students' skill in obtaining a medical history	Pfeiffer, C Madray, H; Ardolino, A; Willms, & J	Lack of proper teaching of clinical skills to students
1995	Physical Diagnosis Skills of Physicians in Training: A Focused Assessment	Mangione, Salvatore; Burdick, William P; Peitzman, Steven J	Deficiency of adequate clinical skills ; Absence of formal training of physical diagnosis in medical schools
2016	The art of self-knowledge and deduction in clinical practice	Gardiner, Fergus William	Significance of ample clinical knowledge
2017	Physical examination: The dying art	Puri, Bipin; Shankar Raman, V.	Decline in clinical skills due to advancements in medical technology Misuse of medical technology Overdependence of the physician on lab investigations
2010	The Humanistic Clinician: Traversing the Science and Art of Health Care	Sasser, Charles G. Puchalski, Christina M.	Affect of advancements in technology on the clinical skills

The deficiency of all such basic principles and the dependence of doctors solely on technology to treat their patients makes them mere technicians or scientists who lack the fundamental humanitarian spirit¹⁶. All these factors affect the doctor-patient relationship adversely making the patient at the suffering end. He/she may suffer from a lack of trust and anxiety while going to the doctor, anytime⁹. Clinical experience shows that if a therapeutic alliance is developed between the doctor and patient it significantly improves the patient's adherence to his treatment plan¹⁷.

Advancements in Medical Technology:

Recent advancements in medical technology have shifted the focus of clinicians from performing a thorough clinical examination towards, ordering a random set of lab tests which seems time-saving for them⁶. Although the outburst of many new technologies has modified the doctor-patient relationship, it cannot replace the touch of a physician's hand to elicit tenderness in the abdomen or to palpate the pulse which creates a sense of care and kindness¹. Such advancements which are causing a decline in the practicality of the physical exam, are leading to a deterioration in the clinical skills of doctors which makes the doctor incompetent to deal with acute issues faced by the patient, as he becomes reliant on medical technology⁸.

Despite the dependence of clinician on the advanced lab tests or imaging to diagnose a patient, he/she may fail to properly manage a patient, as there is always a chance of false positive or negative results with testing, and considering his lack of clinical knowledge he might institute a wrong treatment plan for the patient, resulting in potential

harm towards the patient¹⁸. As evidenced by David, an examination of the peripheral arterial system, including auscultation for femoral bruit has greater accuracy in the detection or exclusion of peripheral arterial disease when compared with the results of the ankle-brachial pressure index test performed for the same complain¹⁹.

Misuse of technology is an ongoing problem¹⁶, resulting because of the over-reliance of clinicians on technology, readily available testing services, lack of satisfactory clinical skills, and poor clinical judgment²⁰.

Organizational Aspects:

Most of the clinicians working in hospitals are given way more patients than they can manage effectively, resulting in patient dissatisfaction, misdiagnosis, maltreatment. This affects not only the patients but also the health professionals, causing them to burn-out. Clinicians fail to manage the time among different tasks assigned to them on daily basis leading to less time spent at the patient's bedside, failing to teach their juniors proper history-taking skills, or carrying out an appropriate physical examination⁴. It has been reported that hospital staff spends only 17% of its time in direct patient contact, whereas 64% of the time is utilized in indirect patient care, such as documenting or writing discharge summaries which result in the poor medical management of the patient²¹ leading to overall dissatisfaction of the patient with the doctor and the hospital altogether.

ARTICLE INFORMATION

Accepted for Publication: March 5, 2020. Published Online: March 30, 2020.

<https://doi.org/10.48111/2020.01.09>

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Financial Support and Sponsorship: Nil.

Conflicts of Interest: There are no conflicts of interest

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