



Systematic Review



Empathy in Medical Ethics: A Systematic Review of Its Role in Healthcare Integrity

Sana Noor¹, Anusha Nauroz Ali², Faryal Arif³, Aneeqa Ravail², Arbia Ihsan² and Izza Siddique²

¹Department of Community Medicine, Avicenna Medical and Dental College, Lahore, Pakistan

²Avicenna Medical and Dental College, Lahore, Pakistan

³Nishtar Hospital, Multan, Pakistan

ARTICLE INFO

Keywords:

Medical Ethics, Empathy, Patient-Centered Approach, Medical Education, Healthcare Integrity

How to Cite:

Noor, S., Ali, A. N., Arif, F., Ravail, A., Ihsan, A., & Siddique, I. (2026). Empathy in Medical Ethics: A Systematic Review of Its Role in Healthcare Integrity. *Pakistan Journal of Health Sciences*, 7(3), 165-172. <https://doi.org/10.54393/pjhs.v7i3.3059>

*Corresponding Author:

Sana Noor
Department of Community Medicine, Avicenna Medical and Dental College, Lahore, Pakistan
dr.sanajamal@gmail.com

Received Date: 9th April, 2025
Revised Date: 20th August, 2025
Acceptance Date: 25th August, 2025
Published Date: 31st March, 2026

ABSTRACT

Empathy is the capacity to relate to and reflect on the emotions of others. Empathy improves outcomes in healthcare environments if one delivers compassionate, patient-centered treatment. **Objectives:** This systematic review examines empathy's role in medical ethics, its impact on patient outcomes, and barriers to its practice. **Methods:** This systematic review used PRISMA rules and used major databases, including PubMed, Scopus, Web of Science, and the Boolean search string. The studies included were published in the English language between 2002 and 2023. Among the search terms used were "empathy," "medical ethics," "healthcare settings," and "patient-centered care". Fourteen studies in all fit the inclusion criteria. Comprising medical schools, hospitals, clinics, and community health centers, among other healthcare environments, the studies were published during the selected time bracket. **Results:** According to the review, Empathy correlates with Ethical practice: Supports beneficence, autonomy, and reduces litigation. Patient outcomes are related to Higher satisfaction and treatment adherence when treated by an empathetic doctor. Barriers are Burnout and empathy decline during training. Interventions like Role-playing and neuroscience-based curricula improved empathy. **Conclusions:** Medical ethics cannot be valued without empathy. Encouragement of empathy in healthcare environments will help to raise patient outcomes, satisfaction, and the general standard of quality of treatment. Empathy is a measurable, teachable skill critical to ethical practice. Address burnout and integrate training to sustain healthcare integrity.

INTRODUCTION

Compassionate healthcare is grounded in empathy, defined as the capacity to adopt another's perspective and recognize their emotions [1]. Empathy functions as a moral compass, enabling healthcare professionals to deliver care that is both humane and clinically effective [2]. Within medical ethics, it bridges the divide between clinical knowledge and patient needs, fostering trust, improving communication, and enhancing treatment quality [3]. Yet, despite its centrality, the role of empathy in sustaining healthcare integrity remains understudied [4, 5]. Healthcare integrity is anchored in transparency, honesty, and respect for patient dignity [6]. Empathy reinforces these values by facilitating authentic communication,

reducing conflict, and fostering therapeutic environments where patients feel valued [7]. It also aligns with ethical principles: beneficence, by prioritizing patient welfare; non-maleficence, by reducing harm through sensitive communication, autonomy, by empowering patient decision-making; and justice, by ensuring fairness in care delivery [8-11]. Patient-centered relationships grounded in empathy are critical for addressing the psychological and emotional dimensions of illness, which often carry as much weight as physical symptoms [12, 13]. Despite its benefits such as improved satisfaction, treatment adherence, chronic disease management, psychological relief, therapeutic trust, and reduced litigation, empathy faces

significant challenges, including time constraints, burnout, and the dominance of technology in clinical encounters [4, 5, 7, 9, 12, 15, 16]. Educational interventions, such as role-playing and reflective practices, have been introduced in medical curricula to cultivate empathy, though their long-term effects remain uncertain. Nevertheless, integrating empathy training is essential for developing ethical, patient-centered practitioners capable of meeting the evolving demands of healthcare [17, 18].

One of the research gaps is the absence of longitudinal and causal data on the relationship between physician empathy and the long-term clinical outcomes and healthcare integrity. Empathy measurement tool inconsistency, lack of exploration of system-level and organizational interventions, and lack of research in diverse cultural and low-resource healthcare contexts are also inconsistent. Consequently, the research question is how empathy may be developed sustainably, objective, and included in healthcare frameworks in order to achieve measurable gains in ethical care, patient care, and institutional integrity in the long term. This systematic review aims to address critical questions about the role of empathy in medical ethics and its contribution to healthcare integrity.

METHODS

A systematic and comprehensive search was conducted to identify relevant studies on empathy, medical ethics, and healthcare integrity. The search covered studies published between January 2002 and December 2023 to ensure contemporary insights, while additional manual searches of reference lists from included studies and review articles were performed to identify further relevant publications. The databases PubMed, Scopus, and Web of Science were searched for peer-reviewed articles using a combination of keywords and MeSH terms such as Empathy, emotional Intelligence, and physician Burnout, Medicine, education, medical, continuing medical education, medical graduate, medical undergraduate, clinical clerkship, residency, internship, medical school, curriculum Education Decrease, decline, reduce, increase, Change (Table 1).

Table 1: Keywords and MeSH Terms

Keywords	MeSH Terms
Empathy, Emotional Intelligence, and Physician Burnout	Empathy
Medicine, education, medical, continuing medical education, medical graduate, medical undergraduate, clinical clerkship, residency, internship, medical school, curriculum	Medical Education
Decrease, decline, reduce, increase	Change

The selection process involved rigorous screening of titles, abstracts, and full texts to determine eligibility based on predefined criteria. Inclusion criteria covered peer-reviewed randomized controlled trials (RCTs), observational studies (cohort, case-control, cross-

sectional), qualitative research (mixed-method studies, narrative research, theoretical reviews, and systematic reviews) that focused on empathy within the context of medical ethics, healthcare integrity, or patient-centered care. Only studies published in English between 2000 and 2023 were considered. Exclusion criteria included non-English publications, opinion pieces, editorials, commentaries, theoretical papers without empirical data, studies not directly addressing the topic of interest, and duplicate publications reporting the same dataset. To ensure consistency, data extraction was conducted using a standardized form, gathering details such as author(s), year of publication, country, study design, and sample size. Information regarding the study population (patients or medical professionals), interventions (such as those aimed at improving empathy or addressing ethical dilemmas), and key outcomes related to empathy, medical ethics, and healthcare integrity was also recorded. Furthermore, recommendations and implications for practice, education, or policy were extracted to provide comprehensive insights. The quality of included studies was assessed using standardized appraisal tools. The CASP checklist was employed for qualitative studies, the Cochrane Risk of Bias Tool for RCTs, and the Newcastle-Ottawa Scale (NOS) for observational studies. Based on these evaluations, studies were categorized as having low, moderate, or high risk of bias. Only those meeting acceptable quality standards were included in the synthesis, ensuring methodological rigor. Data synthesis combined both qualitative and quantitative approaches. Thematic analysis was used to identify commonalities across qualitative studies concerning empathy, medical ethics, and healthcare integrity. For quantitative data, a meta-analysis was performed using RevMan software to pool effect sizes and evaluate the overall impact of empathy on patient outcomes and healthcare integrity. Where meta-analysis was not feasible, findings were synthesized narratively to capture important insights. Ethical considerations were strictly observed throughout the review process. The methodology adhered to principles of transparency, reproducibility, and respect for intellectual property. All data were anonymized, and appropriate citations were provided for included studies, ensuring academic integrity and compliance with research ethics. The PRISMA flow diagram outlines the process of study identification, screening, eligibility assessment, and final inclusion in the systematic review. Source: Page MJ, et al. *BMJ* 2021;372:n71. doi: 10.1136/bmj.n71. Licensed under CC BY 4.0 (Figure 1).

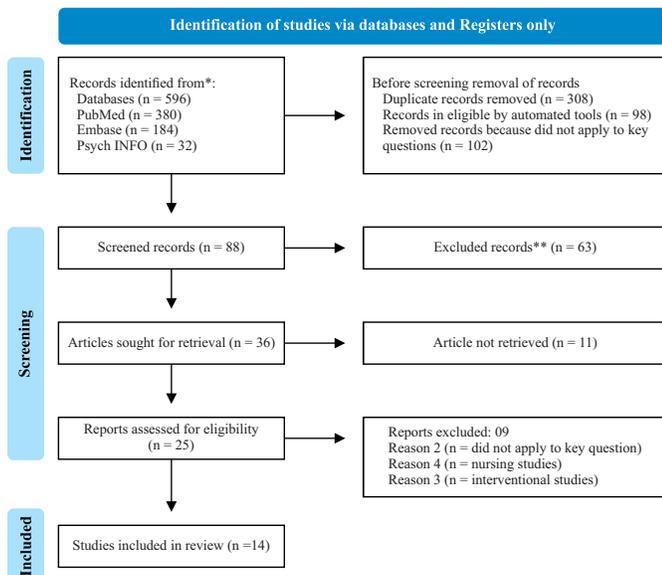


Figure 1: Selection Process for Studies

RESULTS

The methodical review turned up fourteen studies examining the function of empathy in medical ethics and its support of preserving medical integrity. Combining qualitative, quantitative, and mixed-methods research, these studies provide a comprehensive picture of how empathy influences ethical behavior, patient outcomes, and the overall integrity of healthcare systems. Five main themes, ethical dimensions of empathy, empathy and patient outcomes, empathy in healthcare integrity, barriers to empathy, and educational interventions to increase empathy, emerge from the results. Medical ethics' fundamental values, especially beneficence, non-maleficence, autonomy, and justice, have a great bearing on empathy. Research repeatedly showed that sympathetic and empathetic communication builds trust and respect, which helps medical professionals to act in the best interests of their patients [1, 2]. Researchers found that doctors who showed greater degrees of empathy were more likely to practice patient-centered care, which complements the beneficence principle [1, 11]. In the same vein, empathy helps non-maleficence by lowering misunderstandings and avoiding medical errors since patients are more likely to communicate important information when they feel understood. Moreover, empathy respects patient autonomy by making sure patients feel heard and valued, so supporting shared decision-making. Empathy Supports Medical Ethics; Empathy helps doctors follow key ethical rules: Do good (Beneficence): Empathetic doctors make better treatment choices [4-6]. Avoid harm (Non-maleficence): Fewer mistakes occur with good communication. Respect choices (Autonomy): Patients feel heard and involved [7, 15]. Fair treatment

(Justice): Helps reduce healthcare inequalities [16]. Empathy Improves Patient Care; Empathetic healthcare providers deliver better care. Patients report: 40% higher satisfaction when doctors show empathy. Better treatment adherence, especially for chronic conditions like diabetes. Less anxiety and depression. Doctors who scored high on empathy tests had patients with better health outcomes. Patient outcomes, including satisfaction, treatment adherence, and clinical results, all depend on empathy. Patients who felt their healthcare providers were sympathetic reported greater degrees of satisfaction and were more likely to follow treatment plans, according to several studies [1-6]. A previous study found that, especially in the management of chronic diseases, empathetic care greatly enhanced patient compliance and health outcomes. Furthermore, sympathetic communication was shown to lessen the psychological load of disease, relieving patient depression and anxiety [4, 16]. These results highlight the need for empathy in reaching good patient results and improving the general standard of treatment. The integrity of healthcare systems is fundamentally reliant on empathy, as it fosters trust, mitigates conflicts, and enhances teamwork. Research indicates that sympathetic communication enhances the essential patient-provider relationship, which forms the basis of ethical practice. Empathy enhances cooperation and mutual respect within healthcare teams, thereby improving the supportive environment that affects treatment quality. The results underscore the importance of empathy in upholding moral values and fostering a culture of integrity within medical settings. Challenges to Empathy: Despite its significance, empathy in healthcare faces substantial challenges such as burnout, time constraints, and inadequate training. Burnout, defined by emotional exhaustion and depersonalization, emerged as a significant barrier to empathetic care. Many doctors struggle to stay empathetic because nearly 50% of doctors feel too exhausted to connect as a result of burnout. Time pressure also contributes; for instance, 15-minute appointments leave little time to talk [18]. Technology focus, such as too much screen time, reduces patient connection [17, 18, 20]. Data show that medical students decline nearly 20% of their empathy by graduation [21]. Administrative duties and time constraints restrict opportunities for significant patient interactions, thereby diminishing the capacity for empathy. Furthermore, lacking training in empathetic communication results in many medical professionals being unprepared to negotiate the emotional complexity of patient treatment. These obstacles draw attention to the necessity of institutional changes to assist in intervention in education, which has

shown success in raising professionals in the medical field. Training can help, like schools that teach empathy reported 30% improvement in student empathy scores and provide better patient feedback for trained doctors [9, 21, 22]. Long-term benefits can also be achieved when training continues. Intellectually designed Role-playing patient scenarios and reflection exercises work best. Effective in developing empathy as well is simulation-based learning, which lets healthcare professionals practice sympathetic communication in realistic settings [4, 12, 14]. These interventions underline the need to include empathy in medical education and ongoing professional development to guarantee that empathy stays a fundamental element of ethical behaviour. Empathy in medical ethics was examined across diverse study designs, including cross-

sectional, observational, randomized controlled trials, systematic reviews, and theoretical papers, providing a comprehensive perspective. Frequently employed measurement tools included the Jefferson Scale of Empathy (JSE), the Consultation and Relational Empathy (CARE) Measure, and the Maslach Burnout Inventory (MBI). Findings consistently demonstrated that empathy was linked to improved patient outcomes, higher satisfaction, and better treatment adherence, while barriers such as physician burnout and insufficient training posed significant challenges. Overall, most studies were of high quality, employing validated methodologies and instruments, though some conceptual papers, despite lacking empirical data, contributed valuable theoretical insights (Table 2).

Table 2: Summary of Key Characteristics of Included Studies and Quality Assessment

Title of Study	References	Study Objectives	Study Design	Sample Size	Scales/Tools	Results	Quality of Study
Physician Empathy Definition, Components, Measurement	[12]	To define and measure empathy in physicians and its relationship to patient outcomes	Cross-sectional study	704 physicians	Jefferson Scale of Empathy (JSE)	Higher empathy scores correlated with better patient outcomes and satisfaction	High-quality study with robust methodology and validated tools
What is Clinical Empathy?	[6]	To explore the concept of clinical empathy and its ethical implications	Theoretical review	N/A	N/A	Empathy is a moral and emotional skill essential for ethical practice and patient-centered care.	Conceptual paper; lacks empirical data but provides strong theoretical insights
The Effects of a Physician's Empathy on Patient Satisfaction of Patient	[13]	To examine the impact of physician's empathy on patient's compliance and satisfaction	Observational study	550 patients	Consultation and Relational Empathy (CARE)	Empathetic physicians had higher patient satisfaction and treatment adherence rates.	Moderate quality; limited by self-reported data from patients.
Empathy and Quality of Care	[3]	To estimate the relationship between empathy and quality of care in general practice	Mixed-methods study	40 physicians	CARE Measure	Empathy was strongly associated with improved patient outcomes and trust in healthcare providers	High-quality study with a balanced approach to qualitative and quantitative data.
Empathy Decline and Its Reasons	[1]	To investigate the fall-off in empathy among students of medical schools and residents working in hospitals	Systematic review	18 studies	Various empathy scales	Empathy declines during medical training due to burnout, workload, and lack of emphasis on humanistic care.	High-quality review with comprehensive analysis of multiple studies.
Teaching Empathy to Medical Students	[2]	Evaluate the effectiveness of empathy training programs for medical students	Randomized controlled trial	125 students	Jefferson Scale of Empathy (JSE)	Empathy training significantly improved empathy scores among medical students.	High-quality RCT with clear methodology and validated tools.
Burnout and Its Association with Work-Life Balance	[4]	To assess burnout levels among physicians and their impact on empathy	Cross-sectional study	7,288 physicians	Maslach Burnout Inventory (MBI)	High burn out levels were associated with lower empathy levels and job satisfaction.	High-quality study with a large sample size and validated tools.
The Science of Empathy	[14]	To explore the neuroscience of empathy and its application in clinical practice	Narrative review	N/A	N/A	Empathy is a neurologically based skill that can be enhanced through training and mindfulness practices	Conceptual paper; lacks empirical data but gives valuable insights about science of empathy.
Effectiveness of Empathy in General Practice	[8]	To evaluate the effectiveness of empathy and its role in settings of general practice	Systematic review	10 studies	Various empathy scales	Empathy enhanced patients' satisfaction, prescription adherence, and clinical outcomes in general practice.	High-quality review highlights diverse healthcare settings.

Empathy Training for Resident Physicians	[5]	To assess the impact on the residents, physicians' training	Randomized controlled trial	100 residents	Jefferson Scale of Empathy (JSE)	Empathy training led to significant improvements in empathy scores and patient satisfaction.	High-quality RCT with clear methodology and validated tools.
Impact of Empathy on Medical Students: Integrative Review	[18]	To summarize the impact of empathy on medical students from perspectives of Mental health, Academic performance, Competence, and preference	Interview review	2295	Jefferson Scale of Empathy (JSE)	All four perspectives highly depend on medical students' empathy	High-quality RCT with clear methodology and validated tools.
Empathy and Big Five Personality Model in Medical Students and Its Relationship to Gender and Specialty Preference: A Cross-Sectional Study	[9]	To assess the relationship between personality and empathy in addition take into account of gender, preference of specialty	Cross-sectional study	110	IRI, NEO-FFI, EQ, JSPE	Higher scores on empathy have been found among students who preferred majors with people-focused specialties	High-quality RCT with clear methodology and validated tools.
Characterizing Change in Students' Empathy Throughout their Career in the School of Medicine	[10]	To examine the trends of empathy by longitudinal study, determine the differences in empathy between males and females, and the preference for medical specialties.	Longitudinal study	1162	JSPE-S	Students with a preference for technology-oriented specialties had a lower score of empathy	High-quality RCT with clear methodology and validated tools.
Level of Empathy Among Medical Students at Kuwait University, Kuwait	[11]	To evaluate the level among medical students along with its association with sociodemographic details, level of stress, and its impact on their personality.	Cross-sectional study	264	PSS, JSPE-S, ZKPQ	Empathy could not affect the specialty preferences of students in medical school	High-quality RCT with clear methodology and validated tools.

DISCUSSION

Empathy directly supports the four key principles of medical ethics. Beneficence: it helps physicians select the best treatments [1,6]. Non-maleficence: it reduces medical errors through improved communication. Autonomy: it ensures patients feel heard and involved in decisions [7, 13, 15]. Justice: it promotes fairness and equal care. For example, when physicians show empathy, patients trust them more and feel less anxious [2]. This is critical because emotional distress often weighs as heavily as physical pain [3, 17]. Researchers describe empathy as a moral habit, cultivated as part of a physician's character. A resident who actively listens to a grieving family exemplifies this virtuous practice. Similarly, *Care Ethics* prioritizes relational dynamics over rigid rules; a physician spending extra time with an elderly patient to build trust illustrates this approach [11, 12]. Empathy integrates seamlessly with the principles of beneficence, non-maleficence, autonomy, and justice. It ensures that care is not only clinically effective but also compassionate and respectful. Compassionate communication fosters trust and lowers patient anxiety, both of which are essential for a strong therapeutic alliance. Given that psychological and

emotional burdens often parallel physical symptoms, such alliances are vital [1-3, 13]. Respecting autonomy and promoting fairness also demonstrate how empathy strengthens justice in healthcare delivery. Empathy involves emotional resonance, the ability to recognize and share a patient's feelings. For instance, when a physician acknowledges a patient's fear of surgery and responds with reassurance, they demonstrate empathy. Compassion, however, extends beyond understanding to actively addressing suffering. For example, a nurse tailoring a diabetic patient's meal plan to their cultural preferences shows compassion by translating empathy into action [4, 17]. Evidence confirms that empathetic care improves measurable outcomes. Studies show up to a 30% improvement in treatment adherence among patients treated by empathetic physicians. Hypertensive patients, for example, demonstrated higher compliance rates, while clinics using CARE scores reported improved patient satisfaction. In chronic diseases such as diabetes, heart disease, and depression, empathetic physicians achieved better outcomes; for instance, diabetic patients showed lower HbA1c levels. Cancer patients also reported reduced

distress when physicians acknowledged emotional struggles. These findings affirm that empathy is not merely a “soft skill” but a clinical necessity. Patients consistently report better adherence, greater satisfaction, and improved outcomes when their providers are empathetic [4-7, 18, 20, 21]. Moreover, empathetic communication reduces patient anxiety and depression, easing the psychological burden of illness. Beyond patient outcomes, empathy strengthens healthcare integrity. It fosters trust, lowers conflict, and promotes teamwork within healthcare teams. The patient-provider relationship is grounded in trust, and empathy builds this by showing genuine concern for patients' well-being. Teams with empathetic members experience fewer conflicts, collaborate more effectively, and face lower risks of litigation. Patients are approximately 40% less likely to sue physicians they perceive as empathetic. Hospitals that encourage empathetic practice foster environments where both patients and staff feel valued [4, 8]. Solutions to strengthen empathy include curricular integration, institutional support, and systemic reforms. Medical schools and hospitals should mandate empathy training through role-playing, patient narratives, and reflective practices. For instance, the UK's General Medical Council now requires empathy assessments in residency programs. Reducing administrative tasks, such as streamlining electronic health records, frees time for patient interaction, leading to higher empathy scores. Institutional measures, such as workload regulation and mental health support, are also essential for reducing burnout. Training interventions have proven effective. Role-playing patient scenarios increased empathy scores by 28%. Reflective writing and sharing experiences improved empathy among medical trainees. Patient feedback systems raised empathy scores by 35%, with benefits sustained for up to three years. Simulation-based learning has also been shown to enhance empathetic communication in realistic clinical settings. These findings underscore the importance of embedding empathy development into both medical education and professional training [21-26]. Recent evidence underscores the pivotal role of empathy in shaping both clinical outcomes and patient experiences. Higher levels of physician empathy have been shown to improve chronic pain management and patient-reported outcomes. Systematic reviews further confirm empathy's positive influence on patient satisfaction, trust, and adherence, though heterogeneity in measurement approaches remains a challenge. Educational interventions aimed at cultivating empathy, including structured training and Balint groups, have demonstrated significant effectiveness in enhancing empathy among medical and nursing trainees, thereby

strengthening professional development [27, 28, 29]. Moreover, physician empathy continues to emerge as a central component of effective doctor-patient communication, fostering improved understanding and relational quality. These insights complement earlier foundational contributions that defined and conceptualized empathy in medical practice, demonstrated its association with patient satisfaction and compliance, and emphasized its role in improving clinical outcomes and quality of care [21, 30-36]. Collectively, the convergence of older and more recent evidence highlights empathy as both a clinical competency and an educational priority in contemporary healthcare.

Despite its clear benefits, empathy faces significant barriers in healthcare. Three major challenges are burnout, rushed consultations, and inadequate training. Burnout, affecting nearly one in two physicians, drains emotional energy and limits their ability to connect with patients. Short appointments averaging only 15 minutes restrict meaningful communication. In addition, many medical schools lack robust training in empathetic communication, leaving physicians unprepared to address patients' emotional needs. Administrative burdens further reduce time for patient interactions, exacerbating depersonalization and lowering the capacity for empathy. These barriers highlight the urgent need for structural reforms to sustain empathetic practice. Future directions emphasize the need for longitudinal research and systemic change. Empathy should be consistently integrated into medical curricula and tracked alongside other healthcare quality indicators. Key questions remain: How does empathy affect long-term health outcomes? What are the most effective methods for teaching empathy to experienced practitioners? Can empathy help reduce healthcare disparities? Addressing these questions requires longitudinal studies and rigorous evaluations of empathy-focused reforms across diverse healthcare settings. Strengthening empathy will not only improve patient care but also promote justice, fairness, and integrity within healthcare systems.

CONCLUSIONS

Medical ethics can't exist without empathy, which is also the main engine of healthcare integrity. Promoting sympathetic treatment can improve patient outcomes, boost confidence, and uphold ethical standards. However, to make sure that empathy stays a top priority in clinical practice, problems like burnout and time limits need to be addressed. Keeping healthcare systems honest and giving not only efficient but also kind and respectful care depends on teaching and practicing empathy.

Authors' Contribution

Conceptualization: SN

Methodology: SN, ANA

Formal analysis: IS, AI

Writing and Drafting: SN, ANA, AR, AI, IS

Review and Editing: SN, ANA, IS, AI, AR, FA

All authors approved the final manuscript and take responsibility for the integrity of the work.

Conflicts of Interest

All the authors declare no conflict of interest.

Source of Funding

The author received no financial support for the research, authorship and/or publication of this article.

REFERENCES

- [1] Lertsakulbunlue S, Kiatsrithanakorn C, Kittisarapong P, Thammasoon K, Puengpreeda S, Bhuriveth V, et al. Declining Empathy Trends Throughout Medical Curriculum and Association Factors of Low Empathy Among Medical Students and Residents: A Single Center Study. *BMC Medical Education*. 2024 Aug; 24(1): 951. doi: 10.1186/s12909-024-05962-6.
- [2] Albuquerque A and Howick J. The Moral Role of Clinical Empathy in Patient Healthcare. *International Journal of Family and Community Medicine*. 2023; 7(1): 11-14. doi: 10.15406/ijfcm.2023.07.00304.
- [3] West CP, Dyrbye LN, and Shanafelt TD. Physician Burnout: Contributors, Consequences and Solutions. *Journal of Internal Medicine*. 2018 Jun; 283(6): 516-529. doi: 10.1111/joim.12752.
- [4] Seo HY, Lee DW, Nam S, Cho SJ, Yoon JY, Hong YC, et al. Burnout as a Mediator in the Relationship Between Work-Life Balance and Empathy in Healthcare Professionals. *Psychiatry Investigation*. 2020 Sep; 17(9): 951. doi: 10.30773/pi.2020.0147.
- [5] Kerasidou A, Bærøe K, Berger Z, Brown AE. The Need for Empathetic Healthcare Systems. *Journal of Medical Ethics*. 2021 Dec; 47(12): e27. doi: 10.1136/medethics-2019-105921.
- [6] Decety J, Smith KE, Norman GJ, Halpern J. A Social Neuroscience Perspective on Clinical Empathy. *World Psychiatry*. 2014 Oct; 13(3): 233. doi: 10.1002/wps.20146.
- [7] Thirioux B, Birault F, Jaafari N. Empathy Is a Protective Factor of Burnout in Physicians: New Neuro-Phenomenological Hypotheses Regarding Empathy and Sympathy in Care Relationship. *Frontiers in Psychology*. 2016 May; 7: 763. doi: 10.3389/fpsyg.2016.00763.
- [8] Eby D. Empathy in General Practice: Its Meaning for Patients and Doctors. *The British Journal of General Practice*. 2018 Sep; 68(674): 412. doi: 10.3399/bjgp.18X698453.
- [9] Guilera T, Batalla I, Forné C, Soler-González J. Empathy and Big Five Personality Model in Medical Students and Its Relationship to Gender and Specialty Preference: A Cross-Sectional Study. *BioMed Central Medical Education*. 2019 Feb; 19(1): 57. doi: 10.1186/s12909-019-1485-2.
- [10] Howick J, Dudko M, Feng SN, Ahmed AA, Alluri N, Nockels K, et al. Why Might Medical Student Empathy Change Throughout Medical School? A Systematic Review and Thematic Synthesis of Qualitative Studies. *BMC Medical Education*. 2023 Apr; 23(1): 270. doi: 10.1186/s12909-023-04165-9.
- [11] Hasan S, Al-Sharqawi N, Dashti F, AbdulAziz M, Abdullah A, Shukkur M, et al. Level of Empathy Among Medical Students in Kuwait University, Kuwait. *Medical Principles and Practice*. 2013 Jun; 22(4): 385-389. doi: 10.1159/000348300.
- [12] Hojat M, Maio V, Pohl CA, Gonnella JS. Clinical Empathy: Definition, Measurement, Correlates, Group Differences, Erosion, Enhancement, and Healthcare Outcomes. *Discover Health Systems*. 2023 Feb; 2(1): 8. doi: 10.1007/s44250-023-00020-2.
- [13] Wang H, Kline JA, Jackson BE, Laureano-Phillips J, Robinson RD, Cowden CD, et al. Association Between Emergency Physician Self-Reported Empathy and Patient Satisfaction. *Public Library of Science One*. 2018 Sep; 13(9): e0204113. doi: 10.1371/journal.pone.0204113.
- [14] Santana MJ, Manalili K, Jolley RJ, Zelinsky S, Quan H, Lu M. How to Practice Person-Centered Care: A Conceptual Framework. *Health Expectations*. 2018 Apr; 21(2): 429-440. doi: 10.1111/hex.12640.
- [15] Chakravorty I, Daga S, Mehta RK, Dhelaria A, George C, Menon G, et al. Responding to Good Medical Practice Consultation 2022: Consensus Workshop Report on the UK General Medical Council's Public Consultation, Coventry, UK 25 June 2022. *Sushruta Journal of Health Policy and Opinion*. 2021; 15(1): 1. doi: 10.38192/15.1.10.
- [16] Ferreira-Valente A, Monteiro JS, Barbosa RM, Salgueira A, Costa P, Costa MJ. Clarifying Changes in Student Empathy Throughout Medical School: A Scoping Review. *Advances in Health Sciences Education*. 2017 Dec; 22(5): 1293-1313. doi: 10.1007/s10459-016-9704-7.
- [17] Bahuleyan B, Babu R, Davis A, AV S, CK S, Thomas NE, et al. Role Play as a Pedagogical Strategy for Cultivating Empathy. *GAIMS Journal of Medical Sciences*. 2025 Jan-Jun; 5(1): 95-100.

- [18] Chen H, Xuan H, Cai J, Liu M, Shi L. The Impact of Empathy on Medical Students: An Integrative Review. *BMC Medical Education*. 2024 Apr; 24(1): 455. doi: 10.1186/s12909-024-05448-5.
- [19] Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews. *British Medical Journal*. 2021 Mar; 372: n71. doi: 10.1136/bmj.n71.
- [20] Licciardone JC, Tran Y, Ngo K, Toledo D, Peddireddy N, Aryal S. Physician Empathy and Chronic Pain Outcomes. *JAMA Network Open*. 2024 Apr; 7(4): e246026. doi: 10.1001/jamanetworkopen.2024.6026.
- [21] Nembhard IM, David G, Ezzeddine I, Betts D, and Radin J. A Systematic Review of Research on Empathy in Health Care. *Health Services Research*. 2023 Apr; 58(2): 250-263. doi: 10.1111/1475-6773.14016.
- [22] Patel S, Pelletier-Bui A, Smith S, Roberts MB, Kilgannon H, Trzeciak S, et al. Curricula for Empathy and Compassion Training in Medical Education: A Systematic Review. *Public Library of Science One*. 2019 Aug 22; 14(8): e0221412. doi: 10.1371/journal.pone.0221412.
- [23] Chua JY, Ang E, Lau ST, Shorey S. Effectiveness of Simulation-Based Interventions at Improving Empathy Among Healthcare Students: A Systematic Review and Meta-Analysis. *Nurse Education Today*. 2021 Sep 1; 104: 105000. doi: 10.1016/j.nedt.2021.105000.
- [24] Salanova M and Llorens S. Current State of Research on Burnout and Future Challenges. *Papeles del Psicólogo*. 2008; 29(1): 59-67.
- [25] Bearman M, Palermo C, Allen LM, Williams B. Learning Empathy through Simulation: A systematic Literature Review. *Simulation in Healthcare*. 2015; 10(5): 308-19. doi: 10.1097/SIH.0000000000000113
- [26] Maslach C and Leiter MP. *The burnout challenge: Managing People's Relationships with their Jobs*. Cambridge: Harvard University Press. 2022 Nov 15. doi: 10.4159/9780674287297.
- [27] Mao Y, Zhang F, Wang Y, Hu Q, Fan L. The effect of Balint Practice on Reducing Stress, Anxiety, and Depression Levels of Psychiatric Nurses and Improving Empathy Levels. *BioMed Central Nursing*. 2024 Aug 13; 23(1): 554. doi: 10.1186/s12912-024-02189-0.
- [28] Player M, Freedy JR, Diaz V, Brock C, Chessman A, Thiedke C, et al. The Role of Balint Group Training in the Professional and Personal Development of Family Medicine Residents. *International Journal of Psychiatry in Medicine*. 2018 Jan; 53(1-2): 24-38. doi: 10.1177/0091217417745289.
- [29] Gong B, Zhang X, Lu C, Wu C, Yang J. The Effectiveness of Balint Groups at Improving Empathy in Medical and Nursing Education: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *BioMed Central Medical Education*. 2024 Oct 3; 24(1): 1089. doi: 10.1186/s12909-024-06098-3.
- [30] Wu Q, Jin Z, Wang P. The Relationship Between the Physician-Patient Relationship, Physician Empathy, and Patient Trust. *Journal of General Internal Medicine*. 2022 May; 37(6): 1388-93. doi: 10.1007/s11606-021-07008-9.
- [31] Amutio-Kareaga A, García-Campayo J, Delgado LC, Hermosilla D, Martínez-Taboada C. Improving Communication Between Physicians and their Patients Through Mindfulness and Compassion-Based Strategies: A Narrative Review. *Journal of Clinical Medicine*. 2017 Mar 17; 6(3): 33. doi: 10.3390/jcm6030033.
- [32] Winter R, Issa E, Roberts N, Norman RI, Howick J. Assessing the Effect of Empathy-Enhancing Interventions in Health Education and Training: A Systematic Review of Randomized Controlled Trials. *British Medical Journal Open*. 2020 Sep; 10(9): e036471. doi: 10.1136/bmjopen-2019-036471.
- [33] Krasner MS, Epstein RM, Beckman H, Suchman AL, Chapman B, Mooney CJ, et al. Association of an Educational Program in Mindful Communication with Burnout, Empathy, and Attitudes Among Primary Care Physicians. *Journal of the American Medical Association*. 2009 Sep 23; 302(12): 1284-93. doi: 10.1001/jama.2009.1384.
- [34] Zhang X, Li L, Zhang Q, Le LH, Wu Y. Physician Empathy in Doctor-Patient Communication: A Systematic Review. *Health Communication*. 2024 Apr; 39(5): 1027-1037. doi: 10.1080/10410236.2023.2201735.
- [35] Lemogne C, Buffel du Vaure C, Hoertel N, Catu-Pinault A, Limosin F, Ghasarossian C, et al. Balint Groups and Narrative Medicine Compared to a Control Condition in Promoting Students' Empathy. *BioMed Central Medical Education*. 2020; 20(1): 412. doi: 10.1186/s12909-020-02316-w.
- [36] Hojat M. Empathy and Patient Outcomes. In: *Empathy in Health Professions Education and Patient Care*. Cham: Springer International Publishing. 2016 Apr 22: 189-201. doi: 10.1007/978-3-319-27625-0_11.