



MODERN PROBLEMS IN EDUCATION AND THEIR SCIENTIFIC
SOLUTIONS

HOW TO IMPROVE MEDICAL STUDIES STRATEGIES

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Abstract. *In this article, the authors conducted a retrospective analysis of the worldwide studies of role of different things to improve medical knowledge.*

Keywords: *medical content, improve exam, training programs, ABSITE, USMLE steps, ITE exams.*

Annotatsiya: *Ushbu maqolada mualliflar tibbiy bilimlarni yaxshilashda turli xil narsalarning rolini butun dunyo bo'ylab o'rganishning retrospektiv tahlilini o'tkazdilar.*

Kalit so'zlar: *tibbiy kontent, imtihonni takomillashtirish, o'quv dasturlari, ABSITE, USMLE bosqichlari, ITE imtihonlari.*

Significance: The quality of medical knowledge is crucial for patients receive accurate diagnoses, appropriate treatments, and safe care. Errors or misinformation in medical knowledge can lead to misdiagnosis, inappropriate treatments, or adverse effects on patients' health. High-quality medical knowledge forms the foundation for medical research and innovation. Accurate and reliable information facilitates the development of new treatments, medical technologies, and best practices, driving progress in healthcare.

Purpose: To know other authors opinions about importance things to improve medical knowledge.

Materials and methods: In this topic, the results of articles, abstracts, dissertations were taken from pubmed, web of science and google scholar databases, and a retrospective analysis was conducted on these scientific researches.

The results of the study: In a study conducted by Drake SM et al., a group of researchers developed a user-friendly online learning platform aimed at enhancing medical knowledge and reducing the failure rate of residents in the American Board of Internal Medicine (ABIM) exam. The study, published in Medical Education Online in January 2015, sought to address the challenges faced by residents in preparing for the ABIM exam efficiently. The web-based teaching tool created by the researchers was designed to be time-efficient, allowing residents to access and review medical content at their own pace. By providing a structured and interactive platform for learning, the tool





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aimed to improve residents' understanding of key medical concepts and enhance their overall performance in the ABIM exam. The study focused on a select group of residents who were identified as being at risk of failing the ABIM exam. By utilizing the online teaching tool, these residents were able to engage with the material in a more effective manner, leading to a significant decrease in the failure rate among this group. Overall, the study highlighted the importance of utilizing innovative teaching methods, such as web-based platforms, to enhance medical education and improve exam outcomes. By incorporating technology into the learning process, residents were able to access educational resources conveniently and efficiently, ultimately leading to a positive impact on their medical knowledge and exam performance. In conclusion, the findings of this study emphasize the potential benefits of incorporating online learning tools into medical education programs, particularly for residents preparing for board exams. By leveraging technology to deliver engaging and informative content, educators can help residents succeed in their medical training and ultimately improve patient care outcomes [1].

In their 1992 study, Boshuizen and Schmidt explored the significance of biomedical knowledge in the process of clinical reasoning among individuals at different expertise levels - experts, intermediates, and novices. The researchers delved into how varying levels of experience influenced the utilization of biomedical knowledge in the decision-making process within a clinical context. The study found that experts relied heavily on their extensive biomedical knowledge to guide their clinical reasoning, drawing on a wealth of experience and expertise to inform their decisions. Intermediates, on the other hand, demonstrated a more balanced approach, incorporating both their biomedical knowledge and clinical experience in their reasoning process. Novices, with limited experience and knowledge, struggled to effectively utilize biomedical knowledge in their clinical reasoning. Overall, the study highlighted the critical role that biomedical knowledge plays in clinical reasoning across different expertise levels. It underscored the importance of continuously expanding and refining one's biomedical knowledge to enhance clinical decision-making skills [2].

In their article, Lester H and Tritter JQ delve into the topic of medical errors, exploring the ways in which errors are constructed within the medical field and offering insightful suggestions for improving medical education in order to reduce the occurrence of such errors. Published in the Medical Education journal in September 2001, the authors provide a comprehensive discussion on the origins and implications of medical errors, emphasizing the importance of addressing this issue in medical training programs. The article highlights the need for reforms in medical education to better equip future healthcare professionals with the knowledge and skills necessary to prevent and manage errors effectively. By enhancing the training and support provided to medical students and practitioners, it is believed that the overall quality of patient care can be improved, ultimately leading to a decrease in medical errors and better health outcomes for





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all. Overall, Lester H and Tritter JQ's article serves as a valuable contribution to the ongoing dialogue surrounding medical errors and underscores the crucial role that education plays in addressing this critical issue within the healthcare system [3].

Lockley et al. (2004) conducted a study to investigate the impact of reducing interns' weekly work hours on their sleep patterns and attentional performance. The researchers found that interns who worked fewer hours per week experienced improvements in both sleep quality and attentional focus. This suggests that reducing work hours can have a positive effect on interns' overall well-being and performance. The study, published in the *New England Journal of Medicine*, involved a sample of interns who were assigned to either a standard work hour group or a reduced work hour group. The results showed that interns in the reduced work hour group reported fewer attentional failures and slept better compared to those in the standard work hour group. These findings have important implications for medical training programs and highlight the importance of ensuring adequate rest and work-life balance for interns. By prioritizing interns' well-being and reducing their work hours, medical institutions can help improve patient care and prevent medical errors associated with sleep deprivation and fatigue [4].

In a recent study by Rayamajhi et al. (2020), the researchers investigated the predictive value of USMLE steps and ITE scores in determining the results of the American Board of Internal Medicine Certifying Exam. The study, published in *BMC Medical Education*, analyzed data from December 2020 and found that there was a correlation between performance on the USMLE steps and ITE scores with the outcomes of the ABIM Certifying Exam. The researchers discovered that higher scores on the USMLE steps and ITE exams were associated with better results on the ABIM Certifying Exam. This suggests that performance on these standardized tests can be indicative of success on the final certification exam for internal medicine. Overall, the findings of this study highlight the importance of preparing for and performing well on the USMLE steps and ITE exams as they may serve as predictors of success on the ABIM Certifying Exam. Future research could further explore the relationship between these exams and performance on the certification exam to better understand how to best prepare for success in internal medicine certification [5].

Cheun TJ and Davies MG conducted a comprehensive analysis on enhancing ABSITE scores by reviewing various remediation models. Their study was published in *The American Journal of Surgery* in December 2020. The meta-analysis covered a wide range of remediation strategies reported in the literature. The authors found that these models had a significant impact on improving ABSITE scores among medical students and residents. By synthesizing data from multiple studies, they were able to identify common trends and best practices for achieving success in the exam. Overall, the meta-analysis highlighted the importance of targeted remediation efforts in enhancing performance on the ABSITE. The findings underscored the value of implementing structured and evidence-based approaches to help individuals achieve their academic goals. This study





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serves as a valuable resource for medical educators and students looking to optimize their preparation for the ABSITE. By understanding the most effective remediation models, individuals can tailor their study plans to maximize their chances of success on the exam [6].

In the study conducted by Dokmak et al. (2020), an academic enhancement program was developed and executed to enhance performance on the internal medicine in-training exam. The program aimed to provide additional support and resources to medical students in order to improve their exam scores. The results of the study showed a significant increase in exam performance among participants who took part in the program. The academic enrichment program was carefully designed to address the specific needs of medical students preparing for the internal medicine in-training exam. By providing targeted resources and support, the program helped students to better understand and retain the material covered in the exam. Additionally, the program encouraged participants to engage in active learning strategies, such as group discussions and practice exams, which have been shown to improve academic performance. Overall, the study by Dokmak et al. (2020) highlights the importance of academic support programs in helping medical students achieve success on standardized exams. By implementing tailored interventions and resources, medical schools can effectively enhance student performance and promote academic success [7].

In their study titled "Enhancing Internal Medicine In-Training Exam Performance: A Comprehensive Review," Clar, D. T., Juneau, R., McNeal, V., Patel, D., Patel, P., and Ilaiwy, A. (2023) explore various successful tactics for boosting performance on internal medicine in-training exams. The researchers conducted a systematic review to identify effective strategies utilized by medical professionals to achieve higher scores on these crucial assessments. Through their analysis, Clar et al. highlight key methods that have proven to be beneficial in enhancing exam outcomes. The study delves into innovative approaches, practical tips, and evidence-based techniques that can be implemented to optimize performance on internal medicine in-training exams. This comprehensive review sheds light on the importance of adopting strategic study habits, utilizing resources efficiently, and employing effective test-taking strategies to excel in internal medicine training exams. By synthesizing current research and best practices, Clar et al. provide valuable insights for medical professionals seeking to enhance their exam performance and achieve success in their training [8].

In a study conducted by Kay C, Jackson JL, and Frank M, the correlation between the performance of internal medicine residency graduates on the ABIM certifying examination, yearly in-service training examinations, and the USMLE Step 1 examination was explored. The findings were published in Academic Medicine in January 2015. The research aimed to investigate how well the performance of internal medicine residency graduates on different medical examinations correlated with each other. The results showed a significant relationship between the scores obtained on the





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ABIM certifying examination, yearly in-service training examinations, and the USMLE Step 1 examination. Overall, the study highlighted the importance of these medical examinations in assessing the knowledge and skills of internal medicine residency graduates. It suggested that success on one examination could be indicative of success on the others as well. These findings could have implications for the training and evaluation of internal medicine residents, helping educators to better understand the factors that contribute to successful performance on these important medical examinations [9].

The study conducted by McDonald FS et al. examined the relationships between the USMLE Step exams, the American College of Physicians in-training exam, and the ABIM internal medicine certification exam. The results of the study were published in the Academic Medicine journal in September 2020. The research team found correlations between the different exams, suggesting that performance on one exam may be indicative of performance on another. This has implications for medical education and assessment, as it could potentially streamline the testing process and provide valuable insights into students' knowledge and skills. The study involved a sample of medical students and residents, and the findings may help guide future exam development and preparation strategies. By understanding the connections between these exams, educators and students alike can better tailor their efforts towards achieving success in their medical careers. Overall, the study sheds light on the interconnectedness of medical exams and the importance of a comprehensive approach to assessment in the field of internal medicine [10].

Ogunyemi, D., Fung, E., Alexander, C., Finke, D., Solnik, J., and Azziz, R. conducted a study in 2009 aimed at enhancing the learning and teaching abilities of faculty and residents. This research project, published in the Journal of Graduate Medical Education, focused on implementing a comprehensive development program for faculty and residents to improve their skills in education. The program aimed to enhance the knowledge and teaching techniques of faculty members and residents, ultimately benefiting the overall learning experience within the medical education setting. By providing targeted training and support, the researchers sought to address any existing gaps in teaching abilities and promote continuous professional development among participants. The study highlighted the importance of ongoing education and skill enhancement in the medical field, emphasizing the significant impact that improved teaching skills can have on the quality of education provided to students. Through their research, Ogunyemi and his team demonstrated the value of investing in faculty and resident development programs to create a more effective and engaging learning environment for all involved [11].

Dokmak et al. (2020) developed and executed an academic enrichment program aimed at enhancing performance on the internal medicine in-training exam. The study, published in Medical Education Online, focused on designing and implementing a





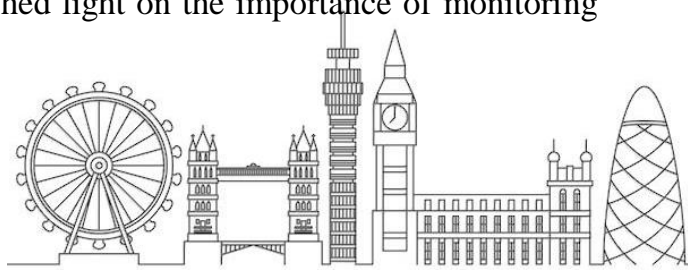
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program to support trainees in their exam preparation. The program was structured to provide trainees with the necessary resources and strategies to excel in the exam. Through a combination of lectures, workshops, and practice exams, participants were able to strengthen their knowledge base and test-taking skills. Additionally, the program emphasized the importance of self-assessment and continuous learning to promote long-term success in the field of internal medicine. The results of the study showed significant improvements in exam performance among participants who took part in the enrichment program. This highlights the effectiveness of targeted academic support in helping trainees achieve their educational goals. Overall, the findings suggest that academic enrichment programs can play a valuable role in enhancing performance on standardized exams and preparing trainees for success in their chosen field [12].

Madaminov, S., Junaid, A., Kholmatov, S., and Zokirjonov, D. (2023). The Impact of Chemotherapy and Radiation Therapy on Morphofunctional Changes in the Breast: A Comprehensive Analysis from Clinical, Imaging, and Histopathological Perspectives. *Science and Innovation*, 2(D12), 44-51. In this study, the researchers delve into the intricate details of how chemotherapy and radiation therapy affect the morphology and function of the breast in women. By combining insights from clinical observations, imaging techniques, and histopathological examinations, a comprehensive understanding of the changes occurring in the breast following these treatment modalities is achieved. The findings of this research shed light on the dynamic nature of breast tissue in response to chemotherapy and radiation therapy. It emphasizes the importance of a multidisciplinary approach in evaluating and managing these morphofunctional changes, which can have significant implications for the overall well-being of patients [13].

In a study conducted by Nishonov Y, Madaminov S, Abdulhakimov A, Zokirjonov D, and Kholmatov S, the researchers evaluated the impact of various thyroid gland hormone dysfunctions on anthropometric changes. Their findings were published in the journal *Science and Innovation* in 2023, volume 2, issue D3, pages 54-60. The study aimed to investigate how different pathologies affecting thyroid gland hormone functions could lead to changes in body measurements and proportions. By analyzing a diverse range of cases, the researchers were able to identify correlations between thyroid disorders and alterations in anthropometric parameters. Overall, the study shed light on the complex relationship between thyroid gland hormone functions and anthropometric changes, providing valuable insights for future research and clinical practice [14].

In a study conducted by Nishonov Y, Madaminov S, Abdulhakimov A, Zokirjonov D, and Komilov S, an assessment was made on the anthropometric changes observed in various thyroid gland diseases. The research, published in the journal *Science and Innovation* in 2023, delves into the impact of these diseases on the physical measurements and proportions of affected individuals. The study found significant alterations in body composition, weight, and other anthropometric parameters in patients with thyroid gland disorders. These findings shed light on the importance of monitoring



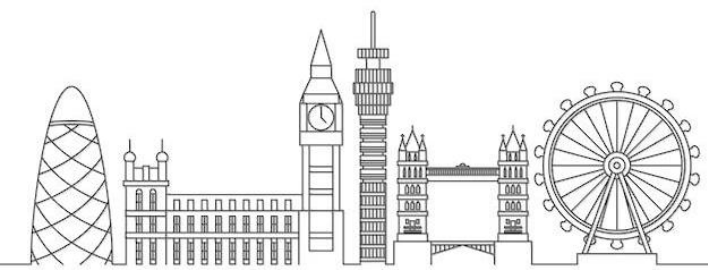


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and managing these conditions to prevent adverse effects on overall health and well-being. The research contributes valuable insights to the field of endocrinology and underscores the significance of understanding the relationship between thyroid function and anthropometric changes [15].

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