

Methodology of clinical thinking formation in the study of phthisiology

Nargiza Toirjonovna Mamatova

Assistant of department of Phthisiology and Pulmonology of Samarkand State
Medical University

Abduvaliy Abdukhakimovich Ashurov

Phthisiatrician of Samarkand regional Center for Phthisiology and Pulmonology
Bakhrombek Abduvaliyevich Abdukhakimov

Master degree of Samarkand State Medical University

Shirin Khayrulloevna Akhtamova

Student of medical faculty of Samarkand State Medical University

Abstract: Modern requirements for higher professional education, as well as changes in the structure and order of continuous postgraduate education of doctors entail the need to develop new effective methods of training and becoming highly qualified specialists. The absolute and objective criterion of truth is not the opinion of higher authorities, nor references to the content of authoritative documents, but a useful result of activity. In our case, this may be a significant increase in the level and quality of education of graduates due to the formation of their clinical thinking and the ability to self-educate.

Keywords: phthisiology, medical education, clinical thinking, knowledge

Introduction. Modern requirements for higher professional education, as well as changes in the structure and format of continuous postgraduate medical education, necessitate the development of new and effective methods for training and shaping highly qualified specialists. A fundamental aspect of modern medical education is the development of creative clinical thinking and a deep analytical approach to each individual case of disease [5, 9, 13]. Equipped with this ability and specific professional skills, a doctor can independently explore and understand particular issues in pathology, thus embodying the principle of lifelong learning and self-education. The process of developing clinical thinking in future doctors begins in the department of phthisiology, which demands from students the ability to generalize a large amount of information - specifically, understanding how data obtained through patient interviews and physical examinations relate to theoretical knowledge [1, 7-16].

Purpose: To study modern approaches to the development of clinical thinking among students of medical universities.

Materials and methods: We analyzed publications on the topic of clinical thinking development, as well as data from surveys conducted among fourth-year students of the Faculty of General Medicine.

Research results and their discussion: Among the numerous problems and contradictions present during the current period of reform in medical education, discussed within the teaching community, we can provisionally distinguish between problems related to organizational aspects of reform and those associated with the level of student preparedness and motivation. The transition from traditional to activity-based learning remains a pressing issue. Traditional education teaches students to memorize information, whereas higher education should foster the ability to think critically based on that knowledge. Systemic thinking has become a necessity, yet the material offered in educational programs is often presented in a summarized format. Currently, insufficient attention is paid to the systematization of learned material and to establishing structural links between didactic units, both in theoretical and clinical subjects. Students often lack orientation in the vast number of concepts spanning different disciplines and have a vague understanding of how these concepts interrelate. Since students receive new knowledge in "ready-made" form from instructors, they fail to recognize systemic connections and struggle with solving clinical problems. The lack of understanding of internal and structural links between theoretical and clinical subjects results in the absence of a unified, coherent conceptual framework, which hinders the development of systematic thinking - an essential foundation for clinical reasoning. The idea that thinking is tied to acquired knowledge - one of the cornerstones of activity-based learning theory - defines the psychological and pedagogical conditions required for the development of professional thinking through the organization of a specific method of learning, one that is inherently cognitive and investigative in nature. Perhaps in no other field of medical education is the intensification of the educational process as relevant as it is in physiology. This compels educators to search for teaching methods that not only require students to think logically but also to develop productive thinking, independently seek relevant information, analyze it, and approach problem-solving in creative ways that take into account the specifics of real-life clinical situations. The development of heuristic (creative) thinking in medical students is a key factor in the formation of clinical reasoning, effective learning, and an active attitude toward the medical profession. Mnemonics enhance heuristic learning and give it depth, whereas an overreliance on heuristics without content leads to a mechanistic understanding of problems. The combined use of mnemonics and heuristics in student education fosters the ability to foresee the consequences of medical interventions, thus forming clinical thinking. Heuristic success is only possible when students are at least minimally motivated to learn, which presents an additional challenge for instructors -

motivating students (although in many European countries, for instance, it is assumed that a person entering university is already highly motivated to gain knowledge in their chosen field). In our opinion, clinical thinking can only be developed if applicants have a sufficient level of basic (secondary school) preparation to allow for the development of professional knowledge and skills. Unfortunately, in recent years, the quality of school education has steadily declined, which inevitably impacts student performance, especially in the earlier years of study. Our annual analysis of incoming knowledge test results reveals a critically low level of fundamental knowledge, which hinders the study of clinical subjects. We encounter daily the unwillingness of many students to consistently master theoretical material, their frequent absences from lectures, and their reluctance to engage with patients. Many students show a complete lack of interest in mastering the fundamentals of the medical profession. Fear of patients and even outright refusal to interact with them has become increasingly common. One of the main reasons for these issues is the lack of social maturity among students, who often do not see the ultimate goal of their education, lack motivation for learning, and have no clear vision of the competencies they are expected to develop. Retaining unmotivated or incapable students within the university system by merely "carrying them over" from course to course is unlikely to enhance the university's reputation. From the very beginning of medical education, students must study a wide range of subjects, absorb large volumes of terminology, and expend significant effort on memorization. Typically, students see no purpose in learning fundamental disciplines if they are not connected to practical medical activity, which leads to a decline in interest and motivation. Even when students demonstrate willpower, perseverance, and patience, these qualities often prove insufficient unless they understand the practical purpose of the theoretical material. Theoretical knowledge taught in the early years of study can only become relevant when applied to clinical case scenarios.

Conclusion: The only absolute and objective criterion of truth is not the opinion of higher authorities or references to authoritative documents, but the beneficial results of activity. In our case, this would be a significant improvement in the level and quality of education among graduates, as a result of the development of clinical thinking and the ability for self-education.

References

1. Abduhakimov B.A. The importance of improving the mental state of patients with tuberculosis.//Web of Scientist: International Scientific Research Journal. – 2022. – T. 3. – №. 4. – C. 1423-1429.<https://doi.org/10.17605/OSF.IO/RNB7V>

2. Abduhakimov B.A. O`pka sili bilan kasallangan bemorlarga stomatologik yordam ko'rsatishning ahamiyati. Academic Research in Educational Sciences. 2022, volume 3, issue 1, pp.258-262.

3. Ashurov A.A. The importance of palliative care in patients with severe and chronic forms of tuberculosis. ACADEMICIA: An International Multidisciplinary Research Journal 12 (2), 290-293. <https://doi.org/10.5958/2249-7137.2022.00159.8>

4. Ataxanovna, K.S. The Effectiveness of Short-Term Treatment Regimens In The Treatment Of Drug-Resistant Forms Of Tuberculosis. European Journal of Molecular & Clinical Medicine, 2020, Volume 7, Issue 3, Pages 5236-5240.

5. Mamatova N. T. Psychological characteristics of adolescents with respiratory tuberculosis //Journal of Biomedicine and Practice. – 2020. – T. 5. – №. 5. – C. 135-140.

6. Xaydarovna, M.F. (2020). Prevention Of Anemia In Patients With Tuberculosis. The American Journal of Medical Sciences and Pharmaceutical Research, 2(11), 62-65. <https://doi.org/10.37547/TAJMSPR/Volume02Issue11-11>.

7. MN Toirjonovna. Features of pulmonary tuberculosis in children with helminthiasis. Web of Scientist: International Scientific Research Journal 3 (11), 643-651.

8. Mamatova N. T. et al. Sil bilan kasallangan bemorlarni kompleks davolash samaradorligiga bedakvilinning ta'siri //Science and Education. – 2023. – T. 4. – №. 2. – C. 107-117.

9. NT Mamatova, AA Ashurov, BA Abduhakimov. Ruhiiy holat yaxshilashning siydik ajratish tizimi sili bilan kasallangan bemorlarning davolash samaradorligiga tasiri. Academic research in educational sciences 3 (10), 892-900.

10. Mamatova, N.T., Abduxakimov, B.A., Axtamova, S.X. and Ashurov, A.A. 2024. Bemor kuratsiyasi - ftiziatriya va pulmonologiya kafedrasida talabalarning mustaqil ishinig asosiy shakli. Science and Education. 5, 4 (Apr. 2024), 84–90.

11. Mamatova N. T. et al. The effect of mental status improvement on treatment effectiveness in men with urinary tuberculosis// Academia Science Repository, 2023.

12. Mamatova N. T. et al. Ko'p bolali oiladagi bolalarda ko'krak ichi limfa tugunlari silning aniqlanishi va uning kechishi //Science and Education. – 2024. – T. 5. – №. 2. – C. 69-76.

13. Toirjonovna M. N., Abduhakimovich A. A., Abduvaliyevich A. B. Role of palliative care for patients with severe and chronic tuberculosis //Modern scientific challenges and trends. – 2021. – C. 30.

14. Mamatova N.T., Abduhakimov B.A. Effects of anti- tuberculosis treatment on the functional status of the thyroid gland. Journal of cardiorespiratory research. 2020, vol. 3, issue 1, pp.24-27

15. Mamatova N. T. et al. Mobile testing in the system of higher medical education //Science and Education. – 2024. – T. 5. – №. 9. – C. 243-249.
35. Toirjonovna M. N., Abdulloyevich A. A., Khayrulloevna A. S. Degree of adherence to treatment regulations of teenagers infected with tuberculosis //European journal of modern medicine and practice. – 2024. – T. 4. – №. 8. – C. 126-132.
16. N.T. Mamatova., B.A. Abdukhakimov. Emotional state of tuberculosis patients and their families. Innovations in pedagogy and psychology. 2021, vol. 4, issue 1, (56-60) pp.
17. AA Kim, NT Mamatova, AA Ashurov, BA Abduhakimov. Siydik ajratish tizimi sili bilan kasallangan erkaklarning davolash samaradorligiga ruhiy holat yaxshilashning ta'siri. Science and Education 3 (11), 143-153.
18. Toirjonovna, M.N. , Abdulloyevich, A.A. and Khayrulloevna, A.S. 2024. Degree of adherence to treatment regulations of teenagers infected with tuberculosis. European journal of modern medicine and practice. 4, 8 (Aug. 2024), 126–132.
19. World Health Organization. Global Tuberculosis Report 2024. Geneva, Switzerland: World Health Organization; 2024.