

THE ROLE OF MID-LEVEL MEDICAL PERSONNEL IN THE HEALTHCARE SYSTEM AND MODERN REQUIREMENTS

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Annotation

This scientific article analyzes the functional role of mid-level medical personnel in ensuring the sustainable development of the healthcare system, as well as their professional competencies and modern requirements. It also examines the existing challenges in the training process of these specialists and proposes recommendations aimed at improving the quality of education in medical colleges.

Annotatsiya

Ushbu ilmiy maqolada sog'liqni saqlash tizimining barqaror rivojlanishida o'rta bo'g'in tibbiyot xodimlarining funksional o'rni, ularning kasbiy kompetensiyalari, zamonaviy talablar va kadrlar tayyorlash jarayonidagi muammolar tahlil qilingan. Shuningdek, tibbiyot texnikumlaridagi ta'lim sifatini oshirish bo'yicha takliflar ishlab chiqilgan.

Keywords: mid-level medical personnel, healthcare, medical college, nursing, competencies, simulation-based training.

INTRODUCTION

On a global scale, healthcare systems are currently facing a range of demographic, social, and epidemiological challenges. In this context, mid-level medical personnel represent a key force at the primary level of healthcare, ensuring the provision of high-quality and continuous medical services to the population. The World Health Organization (WHO) has also identified the improvement of mid-level healthcare workers' professional qualifications as a global priority.

This article is devoted to the scientific analysis of the training process of mid-level medical specialists in medical colleges, the competencies required of them, and the existing challenges in this sphere.

Main Part

1. The Functional Role of Mid-Level Medical Personnel in the Healthcare System

Mid-level medical specialists constitute one of the most essential structural layers of the healthcare system. Their activities require not only practical skills, but also a high sense of responsibility, strong communication abilities, and the capacity to make quick decisions in emergency situations. Research indicates that one of the main determinants of healthcare service quality is the effective performance and professional preparedness of mid-level personnel. Their functional duties are broad and encompass the following areas:

1.1. Provision of Primary Medical Care

Mid-level medical workers serve as the primary executors of first-contact medical services. They conduct initial patient examinations and perform practical procedures such as measuring vital signs— blood pressure, body temperature, pulse, and respiratory rate. Moreover, they are responsible for carrying out preventive measures aimed at reducing disease prevalence, promoting sanitary-hygienic

practices, and encouraging healthy lifestyle habits among the population. These activities increase the importance of primary healthcare in maintaining overall public health.

1.2. Supporting the Treatment Process

One of the most responsible aspects of their activity is organizing and implementing treatment processes in accordance with physicians' instructions. They accurately and timely administer prescribed procedures, ensure correct use of medications, and monitor patients' responses to treatment. Regular patient care, continuous assessment of their condition, and timely communication of any changes to the physician have a direct impact on treatment effectiveness. Likewise, mid-level personnel act as a connecting bridge between the patient and the physician, ensuring continuity within the medical process.

1.3. Acting in Emergency Situations

In emergency cases—such as cardiac arrest, respiratory failure, loss of consciousness, or trauma—the promptness of mid-level personnel can become critical to life-or-death outcomes. They follow established protocols for providing first aid, initiate resuscitation measures when necessary, and ensure the safe transportation of the patient to a medical facility. These competencies require strong training and contribute significantly to the stability and responsiveness of the healthcare system.

1.4. Psychological Support

Medical care is not limited to physical interventions; a patient's psychological condition also plays a crucial role in the recovery process. Therefore, mid-level medical workers must be able to communicate properly with patients and their families, conduct conversations aimed at reducing stress, and offer emotional support. Strengthening the patient's trust in the treatment process and alleviating fear or anxiety can greatly enhance treatment outcomes. Hence, providing psychological assistance is an integral component of their professional duties.

Mid-level medical personnel perform extensive and multifaceted functions, and their role at every stage of the healthcare system is invaluable. The diversity of tasks they undertake requires not only practical expertise but also well-developed communication skills, responsibility, and the ability to make swift decisions. Therefore, their training must be based on high-quality, modern, and systematic educational approaches.

2. Modern Competencies and Professional Requirements (Expanded)

In the context of the rapidly evolving modern healthcare system, mid-level medical personnel are required to possess not only traditional practical skills but also a wide range of advanced competencies, such as digital literacy, communication culture, and analytical thinking. The rapid modernization of medicine, the introduction of new diagnostic technologies, and the global shift in patient-care standards have significantly increased the demand for higher professional training among these specialists. The modern competencies of mid-level healthcare workers can be examined across the following key areas.

2.1. Professional and Practical Competencies

Professional-practical competencies serve as the foundational pillar for mid-level medical personnel and represent the main criteria for delivering qualified and reliable healthcare services. The most essential of these competencies include:

- **In-depth knowledge of physiology, anatomy, and pharmacology:** Understanding the structure and functions of the human body, as well as the mechanisms of action of

medications, is necessary for organizing medical procedures correctly, assessing patient conditions, and performing interventions safely. These competencies enable mid-level specialists to make quick and accurate decisions in clinical situations.

- **Mastery of standard procedures:** Performing injections, infusions, dressings, monitoring vital signs, and carrying out various clinical procedures in accordance with established protocols form the core of practical competency. Specialists who master these skills contribute significantly to ensuring patient safety.
- **Elements of clinical thinking and analytical approach:** Although mid-level staff carry out physician-directed tasks, they must also think independently when monitoring patient status and identifying changes. An analytical approach is crucial for understanding clinical processes, recognizing early warning signs, and initiating urgent measures when necessary.

2.2. Information and Communication Literacy

Digital technologies have become an inseparable part of modern healthcare. Therefore, mid-level medical personnel must achieve information and communication literacy at a contemporary standard.

- **Working with electronic medical records:** Accurate input, updating, and management of patient information increase the transparency and precision of medical processes. Personnel capable of working with digital documentation significantly improve institutional efficiency.
- **Interpreting digital diagnostic equipment data:** Today, laboratory and instrumental examination results are recorded through automated systems. Understanding these results, analyzing them, and communicating relevant information to physicians is an essential responsibility of mid-level staff.
- **Supporting online consultation processes:** As telemedicine expands, patients increasingly receive medical assistance remotely. Mid-level healthcare workers play an important role in providing technical support, transferring information, and maintaining communication with patients during these consultations.

2.3. Personal Competencies

Medical personnel are distinguished not only by their professional skills but also by their personal qualities. These traits play a crucial role in communicating effectively with patients, working efficiently within a team, and adhering to professional ethical standards.

- **Communication skills:** Clear, sincere, and trustworthy communication with patients and their families is an integral part of the treatment process. Effective communication enhances the patient's mental state and improves the overall quality of care.
- **Stress resilience:** Unexpected situations frequently occur in the medical field. Therefore, the ability to maintain self-control and make sound decisions under stress is extremely important for medical personnel.
- **Ability to work in a team:** Healthcare is built upon multidisciplinary teamwork. The harmonious cooperation of mid-level personnel with physicians, other medical staff, and technical personnel significantly improves the quality of medical services.
- **Adherence to ethical and deontological principles:** Ensuring patient confidentiality, maintaining professional secrecy, and treating patients with respect and dignity are among the fundamental ethical obligations of healthcare workers.

3. Training Qualified Personnel in Medical Colleges: Challenges and Solutions

Training competent mid-level medical personnel in medical colleges is of strategic importance for the sustainable development of the healthcare system. However, the existing educational system still does not fully meet the requirements of modern medicine. Scientific analysis of current challenges and the proposal of practical solutions contribute to improving the quality of mid-level specialist training and advancing it to a new level.

3.1. Current Challenges

Although medical colleges strive to improve the educational process, several systemic shortcomings remain, including:

- **Insufficient practical training hours:** Professional skills are primarily developed through hands-on practice. However, in many colleges, the time allocated for practical training is insufficient compared to theoretical classes. This slows down students' adaptation to real clinical settings.
- **Lack of simulation equipment:** Simulation-based training is one of the most effective methods in modern medicine. The absence of specialized mannequins, virtual simulators, and realistic learning environments limits the development of students' clinical skills, potentially affecting the quality and safety of future medical care.
- **Educational programs not fully aligned with labor market needs:** New competencies required in healthcare—such as digital literacy, telemedicine, and communication skills—are often inadequately reflected in curricula. As a result, graduates frequently require additional retraining in practical workplaces.
- **Low alignment with international standards:** WHO protocols, European nursing standards, and advanced practices from countries like South Korea and Turkey are not fully integrated into educational programs. Differences in standards reduce graduates' competitiveness in the international labor market.

3.2. Proposed Solutions

Addressing the above challenges requires a systematic and modern approach. The following solutions can elevate the educational process in medical colleges:

1. **Increase the number of simulation centers:** Simulation-based training helps create environments that closely replicate real clinical conditions. Students can safely practice complex clinical scenarios, including resuscitation, procedures, injections, and diagnostics. Expanding simulation centers equipped with modern technologies significantly improves the quality of medical education.
2. **Implement a dual-education system:** The dual-education model allows students to combine academic studies with practical work. This approach, proven effective internationally, enables students to acquire robust skills in real clinical settings, ensuring they graduate ready for independent practice.
3. **Strengthen international collaboration:** Integrating WHO protocols, European nursing education standards, and advanced curricula from countries such as Turkey, South Korea, and Japan broadens students' knowledge. Seminars and training sessions conducted by foreign specialists bring the training system closer to global requirements.
4. **Retrain and enhance teacher qualifications:** The quality of professional education largely depends on the knowledge of instructors. Educators familiar with modern medical technologies and

international protocols contribute to a more effective system. Therefore, regular participation in experience-sharing programs, internships, and professional development courses is essential.

Conclusion

The effectiveness of the healthcare system is directly linked to the competence of mid-level medical personnel. Modern requirements demand the development of not only professional and practical skills but also communication abilities and proficiency in information technologies. By modernizing the educational process in medical colleges in accordance with international standards, it is possible to train highly qualified, responsible, and compassionate healthcare workers who meet the needs of society.

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