

The Medical Technical School as a Fundamental Stage in Developing the Professional Competence and Practical Skills of Future Healthcare Workers

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Annotation: This article examines the role and significance of the “Abu Ali Ibn Sino” Public Health Technical School in Urgench in preparing mid-level medical personnel for the Khorezm region. It analyzes the institution’s educational environment, its theoretical and practical training system, the mentorship model named as “ustoz-shogird”, and the development of students’ professional and personal competencies. Drawing on pedagogical literature on medical education, World Health Organization (WHO) recommendations, and national regulatory documents, the study substantiates the importance of early-stage professional formation for mid-level healthcare workers.

The article also highlights existing challenges and outlines the prospects for further development of the technical school.

Keywords: medical technical school, Urgench, mid-level medical education, professional competence, practical training, mentorship, nursing.

INTRODUCTION

The preparation of mid-level medical workers plays a crucial role in ensuring the stable functioning of the healthcare system. A significant portion of routine clinical procedures—such as injections, infusions, patient care, measurement of vital signs, and documentation—is carried out by mid-level personnel. According to the World Health Organization, more than 70% of day-to-day medical activities are performed by these specialists.[1]

The Urgench Medical Technical School is one of the leading institutions training such personnel within the Khorezm region. Population density, local healthcare needs, the shortage of qualified specialists, and the workload of rural health units all highlight the demand for well-prepared graduates.

As A surgeon, anatomist, naturalist, and professor of medical education N. I. Pirogov famously stated: “The preparation of a medical worker begins not with receiving a diploma, but with the formation of one’s attitude toward the profession.”[3]

MAIN PART

1. Theoretical Basis of Professional Formation in Mid-Level Medical Education

1.1. Understanding Professional Competence

Professional competence in mid-level medical practice is an integrated system of knowledge, skills, and personal qualities. It encompasses the following:

- Cognitive competence: knowledge of anatomy, physiology, microbiology, therapy, pharmacology, and related subjects.
- Practical competence: the ability to perform medical procedures accurately and safely.
- Communication competence: effective interaction with patients and colleagues.

- Ethical and moral competence: responsibility, self-discipline, respect, and adherence to deontological norms.

As a Doctor of Medical Sciences, State Prize Laureate, Professor E. A. Isaev notes, “At the stage of mid-level medical education, students form their primary understanding of the profession and its long-term developmental foundation.”[4]

2. The Urgench Medical Technical School: History, Educational Environment, and Regional Impact, Historical Overview

The history of the technical school reflects broader reforms in Uzbekistan’s mid-level medical education system.

According to official records, a medical college was established in Urgench in 1986, initially offering a Nursing program.

Over the years, new programs were gradually introduced:

- 1994 – Launch of the Obstetrics program;
- 1996 – Opening of the Pharmacy program;
- 1998 – Relocation to a new building, significantly improving learning conditions;
- 2000 – Introduction of the Medical-Preventive Work program;
- 2002 – Granted college status, reflecting the growth of academic and professional standards;
- 2004 – Practical laboratories upgraded through support from JICA and the “Health-2” program;
- 2006 – Awarded by the International Health Union of the USA for its contribution to training qualified specialists;
- 2010 – New dormitory was built to accommodate students from remote districts;
- 2012 – Opening of the *General Medicine (Paramedic)* program;
- 2020 – The institution was restructured as the Abu Ali Ibn Sino Public Health Technical School.

Current Fields of Training

Today, the institution prepares specialists in the following disciplines:

- Nursing – establishing core competencies in patient care, clinical procedures, and documentation.
- Obstetrics – training professionals for maternity hospitals and women's clinics.
- Pharmacy – preparing future employees for pharmacies and pharmaceutical institutions.
- Medical-Prophylactic Work – training personnel for sanitary-epidemiological services.
- General Medicine (Paramedic) – preparing paramedics for polyclinics, emergency departments, and rural health posts.[9]

2.1. Role in the Regional Healthcare System

Graduates of the technical school work in:

- regional and city hospitals,
- central polyclinics,
- emergency medical units,
- rural health centers,

- laboratories and diagnostics departments,
- maternity and pediatric hospitals.

According to the Ministry of Health's 2023 report, the Urgench technical school is recognized as a key institution fulfilling regional demand for mid-level medical specialists.[7, 8]

2.2. Material and Technical Resources

The school is equipped with:

- anatomy and physiology rooms,
- practical skills laboratories with mannequins and simulators,
- a simulation center,
- educational laboratories,
- an electronic library,
- computer rooms.

This infrastructure meets WHO recommendations for a safe and effective environment for practical training.[1]

3. Integration of Theoretical and Practical Training

3.1. Curriculum Structure

The curriculum includes:

- clinical subjects (therapy, surgery, pediatrics, infectious diseases),
- specialized subjects (nursing, obstetric practice),
- natural sciences (anatomy, physiology),
- psychology, medical ethics, and other social sciences.

As emphasized in the textbook *Nursing Practice* edited by Doctor of Medical Sciences Momchilo Babich: "Theoretical knowledge gains real value only when reinforced by systematic practical application." [5]

4. Practical Training and the Mentorship Model

4.1. Development of Clinical Skills

Students undergo three stages of practical training:

1. *Introductory practice* — basic patient care skills;
2. *Clinical practice* — hands-on experience in hospital departments;
3. *Pre-graduation practice* — work in conditions closely resembling real employment.

During practice, students strengthen skills such as:

- administering injections and infusions,
- accurately recording physiological indicators,
- applying patient care techniques,
- maintaining medical documentation,
- adhering to aseptic and antiseptic principles.

Doctor of Medical Sciences Momchilo Babich notes: “Clinical skills in nursing are refined through repetition and experience.”[5]

4.2. Mentorship System named as “Ustoz - shogird”

Students are supervised by experienced nurses and clinical instructors who:

- demonstrate procedural techniques,
- explain errors and corrections,
- teach communication etiquette with patients,
- guide them in department discipline and teamwork.

This model aligns with the WHO’s clinical mentorship approach, aimed at improving student competency while ensuring patient safety.[2]

5. Development of Personal and Communication Competencies

A medical professional must possess:

- emotional resilience,
- teamwork skills,
- effective communication,
- professional ethics,
- psychological stability.

As a Doctor of Medical Sciences D. A. Leontev emphasizes: “Personal qualities of a healthcare worker can influence outcomes as strongly as technical proficiency.”[6]

Professional development is supported through:

- simulation-based sessions,
- clinical case discussions,
- participation in preventive campaigns.

Key features that make the Urgench Medical Technical School a reliable foundation for a professional career:

Multidisciplinary training that covers nursing, obstetrics, pharmacy, general medicine, and medical-preventive practice.

A strong practice-oriented approach, ensured through close cooperation with regional healthcare institutions.

A well-developed infrastructure, including laboratories, a student dormitory, a sports complex, and modern information resources.

A structured mentorship and educational system that cultivates not only professional skills but also ethical values, motivation, and a commitment to serving patients and the community.

Integration into the regional educational and healthcare environment, which supports continuity between mid-level and higher medical education.

6. Challenges and Prospects for Institutional Development

Current Challenges

1. Need for continuous renewal of simulation equipment;
2. Unequal capacity across clinical training bases;
3. Insufficient motivation among some students.

Future Prospects

- expanding simulation facilities,
- strengthening digital learning tools,
- enhancing international cooperation,
- offering continuing education programs for practicing nurses,
- further developing mentorship traditions.

Medicine is among the professions with the highest ethical and moral responsibility. At the Urgench Medical Technical School, considerable attention is devoted to the following aspects:

- medical ethics and professional deontology;
- the protection of patient confidentiality;
- respect for each patient's dignity, regardless of social status, nationality, religion, or economic conditions;
- the inadmissibility of rudeness, negligence, or any form of discrimination.

Both real and simulated clinical scenarios are examined to help students understand how to balance patient interests, legal requirements, and the practical capabilities of healthcare institutions. This approach fosters the development of a mature and responsible professional mindset.

CONCLUSION

The Medical Technical School in Urgench, with nearly four decades of history, serves as a foundational institution for training future healthcare professionals for the Khorezm region and neighboring areas. Its evolution—from a medical college to the Abu Ali Ibn Sino Public Health Technical School—demonstrates its ability to adapt to changing demands, strengthen its material and technical resources, and broaden the range of educational programs it offers.

The Urgench Medical Technical School plays a pivotal role in shaping future healthcare professionals. It is during this educational stage that students acquire foundational skills, clinical experience, patient-care culture, and professional ethics.

Through a structured balance of theoretical instruction, clinical practice, mentorship, and personal development activities, the institution creates a solid foundation for graduates to succeed in their future careers.

Its future growth is expected to rely on the expansion of modern simulation technologies, digital learning integration, and deeper collaboration with healthcare institutions.

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