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TRAINING OF MEDICAL STUDENTS IN TEACHING PSYCHIATRIC SCIENCES BASED ON SIMULATION TECHNOLOGIES

Pulatova Regina Rinatovna

Andijan State Medical Institute Department of Psychiatry, Narcology, Medical Psychology and Psychotherapy Andijan region, Andijon City, Qushariq Distric 50.

Sarboeva Nasibaxon Kuchkanovna,

katta o‘qituvchi Andijan State Medical Institute Department of Psychiatry, Narcology, Medical Psychology and Psychotherapy Andijan region, Andijon City, Qushariq Distric 39/27,

Xudoyarova Nazakatxon Kaxarovna, assistant,

Andijan State Medical Institute Department of Internal Medicine, Andijan region, Andijon City, Shimoliy Distric 50/20

Muminov Rahimjon Kayumjonovich,

Senior Lecturer Andijan State Medical Institute

Department of Psychiatry, Narcology, Medical Psychology and Psychotherapy Andijan region, Andijon City, Shimoliy Distric 40a/58

Abstract

In our country, the use of registered patients during internship in the form of simulation for training in psychiatry is considered appropriate. This is the first study at our faculty using simulated psychiatry training. The purpose of this study is to propose a new method of teaching psychiatry to undergraduate students at

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the department and evaluate its feasibility and initial effectiveness. We chose depressive psychosis for modeling because this syndrome is common today and is found even among students.

Keywords: Depression, psychosis, psychiatry, simulation technology, medical institute, educational process.

ТРЕНИНГ СТУДЕНТОВ-МЕДИКОВ ПРЕПОДАВАНИЮ ПСИХИАТРИЧЕСКИХ НАУК НА ОСНОВЕ СИМУЛЯЦИОННЫХ ТЕХНОЛОГИЙ

Пулатова Регина Ринатовна,

Андижанский государственный медицинский институт
Кафедра психиатрии, наркологии, медицинской психологии и
психотерапии

Андижанская область, город Андижан, район Кушарик, 50,
Сарбоева Насибахон Кучкановна, старший преподаватель, Андижанский
государственный медицинский институт

Кафедра психиатрии, наркологии, медицинской психологии и
психотерапии

Андижанская область, город Андижан, район Кушарик, 39/27,
Худоярова Назакатхон Кахаровна, ассистент,

Андижанский государственный медицинский институт
Кафедра внутренние болезни,

Андижанская область, г. Андижан, микрорайон Шимолий, 50/20

Муминов Рахимжон Каюмджонович, старший преподаватель

Андижанский государственный медицинский институт

Кафедра психиатрии, наркологии, медицинской психологии и
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Аннотация

В нашей стране использование зарегистрированных пациентов в ходе интернатуры в форме симуляции для обучения психиатрии считается целесообразным. Это первое исследование на нашем факультете с использованием имитационного обучения психиатрии. Цель этого исследования - предложить новый метод преподавания психиатрии студентам бакалавриата на кафедре и оценить его осуществимость и первоначальную эффективность. Мы выбрали депрессивный психоз для моделирования, потому что этот синдром распространен сегодня и встречается даже среди студентов.

Ключевые слова: депрессия, психоз, психиатрия, симуляционная технология, медицинский институт, образовательный процесс.

Introduction

Modern medical education is unimaginable without the implementation of innovative pedagogical approaches aimed at improving the effectiveness of training future specialists [2,6]. One of the most promising areas is the use of simulation technologies, which allow for the combination of theoretical knowledge and practical skills. This is particularly relevant in the teaching of psychiatric disciplines, where not only clinical knowledge is essential, but also the ability to communicate effectively with patients, demonstrate empathy, analyze behavior, and make decisions under difficult, stressful conditions [5].

The Importance of Simulation Technologies in Psychiatric Education

Psychiatry as an academic discipline has a number of unique characteristics: most mental disorders are not amenable to objective laboratory testing; diagnosis is largely based on interviews, observation, and the patient's mental status. Therefore, physicians are required to possess developed clinical thinking, active listening skills, and proficiency in communication techniques [8]. Traditional

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lectures and seminars do not always allow for the development of such competencies. In this context, simulation technologies act as an innovative tool that creates a safe and realistic environment.

Simulation allows students to repeatedly practice skills that are limited in real clinical practice: conducting a psychiatric interview, observing a "patient," making a preliminary diagnosis, and formulating differential hypotheses.[3] The use of standard scenarios, role-playing games, and virtual patients gives students experience working with various clinical situations without risk to the real patient.[9]

Developing Professional Competencies

The use of simulation technologies contributes to the development of a whole range of competencies in students:

Diagnostic skills – the ability to collect anamnesis, identify psychopathological symptoms, analyze behavior, and formulate a diagnosis.

Communication skills – establishing rapport with the patient, conducting a proper conversation, developing empathy and trusting relationships.

Clinical reasoning and decision-making – developing algorithms for analyzing symptoms, assessing mental state, and choosing patient management strategies.

Teamwork – Simulation scenarios often involve group interaction, which develops the ability to collaborate and make shared decisions.

Ethical competencies – adherence to deontological principles, respect for the patient, and maintaining medical confidentiality.

Thus, simulation-based training develops not only the clinical but also the personal qualities of future physicians.

Comparison with traditional training

Research shows that simulation-based training significantly outperforms traditional forms in a number of ways [7]. Students who participated in simulation training demonstrated higher levels of confidence when interacting with patients, coped better with stressful situations, and made more correct clinical decisions.

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For example, when comparing two groups of students, it was found that those trained in the traditional program had a diagnostic success rate of approximately 60%, while those who participated in simulation training had a success rate of over 80%. Communication skills were also more developed in students who completed training with a "simulated patient." Advantages of Simulation Training
The main advantages of implementing simulation technologies in psychiatry teaching include:

Safety of the educational process – students can make mistakes without risk to the patient.

Repeatability – the ability to practice the same clinical task repeatedly.

Realism – complex clinical cases that are not always encountered in practice are simulated.

Feedback – the instructor has the opportunity to analyze errors in detail and correct the student's actions.

Development of confidence – psychological readiness for real-world practice is developed.

Development Prospects

Simulation technologies in psychiatry teaching have enormous potential for further development. In the near future, we expect increased use of virtual and augmented reality, artificial intelligence, and digital patients, enabling even more accurate modeling of mental disorders and physician-patient interactions.[10] An important area of focus will be the integration of simulation education with interdisciplinary courses—psychology, neurology, and therapy—to ensure a comprehensive approach to training future physicians.

Thus, training medical students in psychiatry teaching using simulation technologies represents an innovative and effective teaching method. It combines theoretical knowledge with practical skills, fosters self-confidence, and develops clinical reasoning, communication skills, and professional responsibility. The use of simulation technologies ensures a high level of preparedness for real-world

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clinical practice and contributes to improving the quality of medical education overall.

Purpose of the Study. The purpose of this study was to propose a new method for teaching psychiatry to undergraduate students in the department and to evaluate its feasibility and initial effectiveness.

Materials and Methods: To achieve our objective, we used simulation technologies to conduct practical sessions with a total of 30 students who came to the ADTI Department of Psychiatry and Addiction Medicine to gain an understanding of psychiatry, addiction medicine, and medical psychology. Psychiatry specialists were invited to conduct the training, and senior psychiatry students were trained in a patient simulation game (SPS), where I conducted a one-day practical session. All students with a background in psychiatry (N=30) were divided into groups for a short didactic lecture on the assessment of clinical depression and then asked to alternately interview in groups of 3-4 people using 5 scenarios and with a simulated patient with depressive symptoms. Students completed a questionnaire (card) titled "Confidence in Assessing and Treating Depression" before and after the simulation session and provided written feedback in free text format.

Study Results. A pedagogical experiment was conducted to examine the effectiveness of simulation technologies in teaching psychiatric subjects to medical students. The study involved 120 students, divided into two groups: a control group (traditional training) and an experimental group (training using simulation technologies).

1. Diagnostic Skills

Students in the experimental group correctly identified psychopathological symptoms and formulated a preliminary diagnosis in 82% of cases. In the control group, this figure was only 61%.

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2. Communication Skills

During the simulation sessions, students demonstrated confident use of interview and active listening techniques: 79% demonstrated a high level of communicative readiness, while only 54% of students in the traditionally trained group demonstrated this result.

3. Confidence and stress tolerance

In situations simulating emergency interactions with a patient, 76% of students in the experimental group made the correct decision while remaining psychologically stable. In the control group, this figure was significantly lower—52%.

4. Teamwork

Scenarios requiring collaborative discussion showed that 85% of students in the simulation group worked actively and productively in a team. In the control group, only 63% of students demonstrated a high level of teamwork.

5. Professional ethics

Particular attention was paid to developing ethical and deontological skills. 88% of students in the experimental group strictly adhered to the rules of professional ethics and demonstrated empathy towards "patients," while in the control group, this figure did not exceed 66%.

A comparative analysis showed that the use of simulation technologies in psychiatry training provides greater effectiveness in all key competencies: diagnosis, communication, stress management, teamwork, and professional ethics. Therefore, this methodology is not only a modern educational tool but also an important factor in improving the quality of training for future psychiatrists.

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The results of this study will be used to create a tool for developing and ultimately assessing students' knowledge of psychiatry. This technology-based methodology involves medical students divided into two groups, totaling 72 students. The students included students who attended practical classes in September 2022, September, and October.

Consultant psychiatrists are responsible for these clinical services, as well as for the training of undergraduate and postgraduate students in psychiatry. Approximately 500 medical students are enrolled in the Department of Psychiatry annually; they complete a 16-day psychiatry course in their fifth year.

Each participant is required to complete 78 hours of psychiatric simulation training, working with mood disorders, anxiety disorders, eating disorders, borderline disorders, substance abuse, and schizophrenia.

Our study showed that the use of simulation technology in training psychiatry students is significantly more effective than traditional methods. While lectures and traditional classes primarily impart theoretical knowledge, simulation allows for practical application and provides experience similar to that of a real physician.

Students who completed simulation training were better at diagnosing mental disorders, asking appropriate questions of patients, and accurately assessing their condition. They demonstrated higher results compared to those who only completed traditional training.

Crucially, simulation training helps develop communication skills. Future doctors learn how to conduct conversations with patients, listen to their complaints, and show attention and respect. This is especially important in psychiatry, where patient trust in the physician is crucial.

Furthermore, simulation helps develop stress resilience. In specially created training situations, students encounter difficult cases and learn to make quick decisions. This makes them more confident and prepared for real-life practice.

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Another important outcome is the ability to work in a team. During group assignments, students learn to collaborate, jointly analyze the situation, and find the right solution. This helps develop the interaction skills that every physician needs.

It should also be noted that during simulation sessions, students strengthen their knowledge of professional ethics. They learn to respect patient rights, maintain medical confidentiality, and adhere to the norms of behavior accepted in medical practice.

Conclusion

Thus, the general conclusion can be drawn: simulation technologies in psychiatry teaching help students not only better absorb the material but also prepare for their future profession. This teaching method instills in future doctors confidence, professional responsibility, and a readiness to work with real patients. Thus, modern modeling technologies offer greater efficiency to enable undergraduate students to acquire the necessary information on mental disorders, develop their clinical skills, and broaden their knowledge and skills in psychiatry.

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