Use of Artificial Intelligence in Psychiatric Nursing and Ethics
Psikiyatri Hemşireliğinde Yapay Zekanın Kullanımı ve Etik

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ABSTRACT

Artificial intelligence is a technology that can fulfill tasks that require human intelligence, providing significant developments in various fields such as health. While the use of Artificial intelligence in medical applications offers advantages such as early diagnosis and personalized treatment plans, it also brings ethical issues such as data security and privacy violations. The integration of Artificial intelligence in the field of psychiatric nursing improves nurses' therapeutic relationships with patients, while at the same time supporting their clinical decision-making processes. However, for the effective use of Artificial intelligence in this field, nurses should be trained in Artificial intelligence technology and ethical guidelines should be established. Integration of Artificial intelligence into mental health services can improve the healing process of patients by supporting the personal skills of nurses. In conclusion, the use of Artificial intelligence in psychiatric nursing in a broader and ethical framework may improve the quality of mental health services.

Keywords: Psychiatric nursing, Artificial intelligence, Ethics, Review

ÖZET

Yapay zeka, insan zekası gerektiren görevleri yerine getirebilen, sağlık gibi çeşitli alanlarda önemli gelişmeler sağlayan bir teknolojidir. Yapay zekanın tıbbi uygulamalarda kullanımı, erken teşhis ve kişiselleştirilmiş tedavi planları gibi avantajlar sunarken, veri güvenliği ve mahremiyet ihlalleri gibi etik sorunları da beraberinde getirmektedir. Psikiyatri hemşireliği alanında Yapay zekanın entegrasyonu, hemşirelerin hastalarla terapötik ilişkilerini geliştirirken, aynı zamanda klinik kararlar verme süreçlerini desteklemektedir. Bununla birlikte, Yapay zekanın bu alanda etkin kullanımı için hemşirelerin Yapay zeka teknolojisi konusunda eğitim almaları ve etik rehberler oluşturulması gerekmektedir. Yapay zekanın ruh sağlığı hizmetlerine entegrasyonu, hemşirelerin kişisel becerilerini destekleyerek hastaların iyileşme sürecini iyileştirebilir. Sonuç olarak, Yapay zekanın psikiyatri hemşireliğinde daha geniş ve etik bir çerçevede kullanımı, ruh sağlığı hizmetlerinin kalitesini artırabilir.

Anahtar Kelimeler: Psikiyatri hemşireliği, Yapay Zeka, Etik, Derleme

INTRODUCTION

Artificial intelligence (AI) is an application that aims to develop computer systems that can fulfil tasks that require human intelligence such as learning, reasoning, problem-solving and perception (Aslan and Subaşı, 2022; Ülker and Akkan, 2023). These systems use learning and adaptive algorithms to fulfil functions such as generating thoughts on a specific theme, making decisions, making risk predictions and providing support for extraordinary situations (Lee et all., 2021). The usability of AI in various fields reveals the importance and potential of this technology. AI applications provide significant advances in disciplines such as medicine, finance, education and engineering and offer different approaches to achieve human-like performance (Sayar, 2023). For example, detecting changes in a patient's behaviour or speech structure can provide earlier intervention for a health crisis that may arise as a result of dangerous situations (Özel and Aba, 2023). In this context, the development and application of artificial intelligence are of great importance both theoretically and practically.

AI, which is actively used in many fields, is widely used in the field of medicine, especially in the protection of physical health and detection of possible problems (Sayar, 2023). Monitoring of pulse and physical activities, use of radiological images, medication monitoring can be given as examples. AI has great potential in protecting the mental health of the individual, detecting possible problems and making necessary interventions (Ray et all., 2022). Methods such as analysis of voice and facial expressions for early detection of mood disorders, mobile applications for monitoring current and visible indicators, and natural language processing for correcting possible errors in therapy sessions can be actively used in the field of mental health (Ülker and Akkan, 2023; Fareeq et all., 2023). In this context, mental health professionals (nurses, psychiatrists, etc.) should support the integration of AI into mental health services, protection and treatment of mental health.

The use of AI in psychiatric nursing, which has an important role in mental health services, is increasing day by day. Therefore, a psychiatric nurse should have a certain level of knowledge about AI. In addition, they should actively use AI in providing emotional support to individuals and developing coping mechanisms for patients and their families. They should identify individual ethical risks related to trust, privacy and autonomy that may arise with the use of AI (Fiske et all., 2019). They should develop personal skills that promote trust with human connection, establish therapeutic relationships, and support the

management of mental illness and recovery (Fiske et all., 2019; Nashwan et all., 2023). In addition, it is necessary to identify the deficiencies of psychiatric nurses in this field and to provide these skills from the undergraduate period. In this context, the research will make recommendations on AI-supported psychiatric nursing and ethical issues.

Artificial Intelligence and Mental Health

Artificial Intelligence (AI) is an application that is created by combining various data and contains human characteristics such as reasoning, learning, planning and creativity (Aslan and Subaşı, 2022). It contains a large pool in its structure with machine learning, deep learning and storage of data (Lee et all., 2021). This situation provides an active use in disciplines such as health, finance, education and engineering (Sayar, 2023). Its use in many fields contributes to the expansion of these applications and the benefit of many people. Medical imaging and diagnosis, personalized treatment, agricultural management, autonomous vehicles, and personalized shopping experience are examples of these areas (Aslan and Subaşı, 2022; Lee et all., 2021). It will be possible to discuss the impact, potential advantages and disadvantages of AI only by recognizing and taking part in these applications.

The use of AI in health services, health promotion, early diagnosis, management of the treatment process and care, and its use as an innovative approach in order to make appropriate and accurate decisions is a subject of discussion. By analyzing treatment images such as X-ray, Magnetic Resonance Imaging (MRI), and positron emission tomography (PET) scans, cancer, tumours and other diseases can be detected at early stages (Lee et all., 2021). Performing such applications on physical health is very important for the health of the individual. However, studies to be carried out only for a certain aspect of the human being, which is a whole in physical, mental and social aspects, will cause difficulties in terms of protecting the health of the individual. Therefore, biopsychosocial evaluation of the individual and the use of AI in health should be addressed with all its dimensions.

Mental health is the state of internal balance in which the individual can realize his/her potential, cope with stress factors, and be productive and efficient in society (Okcu, 2020; Ülker and Akkan, 2023). Based on this definition, mental health professionals use individual-specific approaches by using skills such as establishing a therapeutic relationship

with the patient and observing the patient's emotions and behaviours. The fact that the relationship between the patient and the clinician is sensitive in this process between the individual with between the individual undergoing a mental health evaluation and the clinician makes the process important. Carrying out this process by using AI may cause difficulties in the sensitive relationship between the individual and the clinician, especially in the transfer of emotions and detection of behaviours. In this context, mental health professionals need to find the necessary solutions by making a correct determination and planning in order to realise these skills by using AI.

Integration of Artificial Intelligence into Psychiatric Nursing and its Future

Psychiatric nursing is a speciality based on knowledge and practice that provides comprehensive care and support to individuals with mental health problems (Fareeq et all., 2024; Yılmaz and Özcan, 2016). Nurses working in this field play an active role in improving patients' mental problems and increasing their social functionality by using their knowledge and skills. In addition, psychiatric nurses can make targeted psychosocial interventions in high-risk individuals and try to minimize the risk by providing counselling and educational resources according to the needs of the individual. Psychiatric nurses have certain roles and responsibilities (Yılmaz and Özcan, 2016). They perform diagnosis and evaluation, treatment planning, medication management, psychotherapy and counselling for individuals with mental problems with roles such as manager, clinical practitioner, researcher and programme evaluator (Fareeq et all., 2024; Yılmaz and Özcan, 2016).

Developments in technology have brought significant changes in mental health services. This change has also affected psychiatric nursing, and the integration of AI into mental health services has led to some changes in the roles and responsibilities of nursing. For example, with personalized treatment approaches, AI algorithms can develop treatment plans by analyzing data such as genetic profiles, treatment history and response to treatment (Nashwan et all., 2023; Briganti, 2023). When the literature is examined, it is seen that nurses and nurse educators in the USA and some European countries have started to recognize these applications and started to include them in the nursing care process (Aslan and Subaşı, 2022). However, it is thought that the use of AI in psychiatric nursing has not been fully realized in many countries due to incomplete knowledge, lack of infrastructure and economic reasons. It is very important to eliminate the deficiency of psychiatric nurses who actively deal with

individuals with mental problems and to integrate AI. In this context, psychiatric nurses who will actively use AI are recommended to implement the following items:

- Guidelines should be established for the correct use of AI in psychiatric nursing, ethical procedures should be regulated, and these guidelines should be updated as the literature is updated (Fiske, 2019).

- Certification studies on subjects such as virtual psychotherapies, telehealth and patient monitoring should be planned and implemented for psychiatric nurses actively working in the field in order to use AI in care and treatment (Ray et all., 2022; Naswhan et all., 2023).

- A curriculum should be developed for the use of AI in psychiatric nursing courses by following the current literature from the undergraduate period, and students should be guided about the applications they can make (Woodnutt, 2024).

- Psychosocial effects in various treatment methods of AI should be addressed, and care should be shaped according to the needs of individuals by collaborating with interdisciplinary teams (Briganti, 2023).

- Research on diagnosis and evaluation, treatment planning, drug management, psychotherapy and counselling should be conducted using AI and therapeutic interventions should be applied to patients (Nashwan et all., 2023).

- Patients should be informed about the use of AI and the positive and negative effects that it may leave on the patient should be evaluated. In addition, measures should be taken for negative effects (Aslan and Subaşı, 2022).

These suggestions for the integration of AI in psychiatric nursing require serious work and patience. It is of great importance for nurses to make the necessary efforts to adapt to the developing and changing health system and to be more active in the field by increasing their numerical informational power. The use of AI in psychiatric nursing will increase the quality of care with the studies that can be carried out. In this context, some sample applications are given below to organize and realize the care and treatment processes of AI in psychiatric nursing:

- **Mental Health Diagnosis and Screening**

IBM Watson: Analyzes patient notes and other health data using natural language processing (NLP) and machine learning. This analysis can be used in the early diagnosis of depression, anxiety and other mental health problems. (Strickland, 2019)

Eleos Health*:* Uses AI to analyze therapy sessions and provides feedback to therapists about the effectiveness of sessions. This can help psychiatric nurses improve their interactions with patients. (Sadeh-Sharvit and Hollon, 2020).

- **Personalized Treatment Plans**

Quartet Health: Integrates patients' medical and behavioural health data using AI and provides personalized treatment recommendations. This can help psychiatric nurses create optimal treatment plans for patients. (Castenhammar and Mohammed, 2020).

Ginger: Ginger is an AI-powered platform that provides users with 24/7 accessible mental health support. The platform offers personalized therapy and guidance based on individual needs. (Waheed et all., 2023).

- **Patient Monitoring and Tracking**

Mindstrong: Monitoring patients' behavioural health through smartphone use. AI algorithms assess users' mental health status from their phone interactions and provide continuous feedback to psychiatric nurses. (Kostopoulos, 2018).

Woebot: It is an AI-based chatbot that monitors users' emotional states and intervenes when necessary. This can help nurses monitor the mental health status of their patients. (Sudha, 2024).

- **Training and Support**

Simcoach: Offers virtual simulation training for psychiatric nurses. This platform helps nurses improve their skills related to various mental health conditions. (Rizzo e all., 2011).

Kognito: It is an AI-powered training platform that trains healthcare professionals on challenging patient interactions. This enhances nurses' patient communication and intervention skills. (Fiske et all., 2019).

Disadvantages and Ethical Aspects of Artificial Intelligence

AI has tremendous potential in understanding, diagnosing and providing solutions for mental disorders (Nashwan et all., 2023; Briganti, 2023). An application for Post Traumatic Stress Disorder can determine cognition, emotion and communication by following the patient's speech (Ülker and Akkan, 2023). In addition, applications that can increase students' communication skills, self-confidence and self-efficacy by simulating

various clinical scenarios with virtual patient applications are used (Nashwan et all., 2023). However, this potential also brings some negative situations and ethical problems. For example, misuse of data collected by AI with unauthorised access is an important problem in terms of patient privacy and confidentiality. In addition, algorithms that are not configured correctly may cause misdiagnosis and inappropriate treatments. Such situations decrease the reliability of AI and affect the privacy and autonomy of the individual (Fiske et all., 2019; Solaiman et all., 2023). Despite its potential, the fact that it also causes ethical problems negatively affects the integration of AI into mental health services and its use in the treatment of patients. In this context, psychiatric nurses' identification of ethical problems related to the use of AI and taking necessary interventions will ensure that AI can be applied more effectively in this field.

CONCLUSION AND RECOMMENDATIONS

Psychiatric nursing is a field that promotes trust with human connection to individuals with mental illnesses, establishes therapeutic relationships and uses personal skills in the management of mental illnesses and support of recovery with knowledge and practice-based roles (Nashwan et all., 2023). With the development of mental health services and the integration of AI into this field, the positive, negative and ethical aspects of AI affect psychiatric nursing. In this context, in the realisation of the integration of AI into psychiatric nursing;

- Developing and implementing guidelines for the use of AI in psychiatric nursing from the undergraduate education period,
- Researching the short and long-term effects of AI on individuals with mental diagnoses (schizophrenia, depression, anxiety, etc.),
- Ethically sound experimental evidence for the use of AI should be reported and further decisions made on how to safely incorporate AI into care,
- It is recommended to develop new perspectives and reach wider groups with studies on AI applications by acting in cooperation with other disciplines.

Research Statement

Ethical Aproval: The study does not require ethical approval.

Conflict of Interest: The authors declare that there is no conflict of interest for the study.

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