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Care Plans Created by Chatgpt, Bard, and New Bing

Chatgpt, Bard ve New Bing Tarafından Oluşturulan Bakım Planları

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Abstract:

Aim: This study aims to determine which generative artificial intelligences (ChatGPT, Bard, and New Bing) can create a comprehensive and error-free psychiatric-mental health nursing care plan that addresses all the needs of a patient.

Materials and Methods: This descriptive and comparative study was conducted between 15.10.2023 and 22.10.2023. An anamnesis of a patient with social anxiety disorder were presented to generative artificial intelligences.

Results: On the first command, ChatGPT ranked the patient's symptoms best but failed to do so according to functional health patterns. On the second command, generative artificial intelligences failed to define nursing diagnoses accurately and entirely according to the North American Nursing Diagnosis Association. Generative artificial intelligences generally made scientifically accurate and valid statements about goals, plans, and interventions. On the third command ChatGPT set four goals and included the patient and the family. New Bing did not explain the planning step. On the fourth command New Bing was able to create a planning step. ChatGPT, on the other hand, did not include the family in the goals. On the third command Bard, on the fourth command Bard and New Bing outperformed in the planning and intervention steps. Bard also proposed individualized interventions.

Conclusion: Since better results are obtained at different nursing process steps in the care plans created by each generative artificial intelligences, these care plans can be used as a draft.

Key Words: Nursing process, quality of care, therapeutic relationships, nursing role, generative artificial intelligence.

Özet:

Amaç: Bu çalışmanın amacı, hangi Üretken Yapay Zeka'nın (ChatGPT, Bard ve New Bing) bir hastanın tüm ihtiyaçlarını karşılayan kapsamlı ve hatasız bir psikiyatri-ruh sağlığı hemşirelik bakım planı oluşturabileceğini belirlemektir.

Gereç ve Yöntem: Tanımlayıcı ve karşılaştırmalı tipteki bu araştırma 15.10.2023-22.10.2023 tarihleri arasında yürütülmüştür. Toplumsal kaygı bozukluğu tanısıyla tedavi edilen hastanın öyküsü üretken yapay zeka programlarına tanıtılmıştır.

Bulgular: İlk komutta ChatGPT hastanın semptomlarını en iyi şekilde sıraladı ancak bunu fonksiyonel sağlık modellerine göre yapamadı. İkinci komutta üretken yapay zeka programları, Amerikan Hemşirelik Tanıları Birliği'ne göre hemşirelik tanımlarını doğru ve eksiksiz bir şekilde tanımlamada başarısız olmuştur. Üretken yapay zeka programları genellikle hedefler, planlar ve uygulamalar hakkında bilimsel olarak doğru ve geçerli açıklamalarda bulunmuştur. Üçüncü komutta ChatGPT dört hedef belirlemiş, hedeflerinde hastayı ve ailesini de dahil etmiştir. New Bing planlama basamağını açıklamamıştır. Dördüncü komutta New Bing bir planlama basamağı oluşturabilmiştir. Öte yandan ChatGPT hedeflere aileyi dahil etmemiştir. Üçüncü komutta Bard, dördüncü komutta Bard ve New Bing planlama ve uygulama basamaklarında üstün performans göstermiştir. Bard ayrıca bireyselleştirilmiş girişimler önermiştir.

Sonuç: Her bir üretken yapay zeka tarafından oluşturulan bakım planlarında, farklı hemşirelik süreci basamaklarında daha iyi sonuçlar elde edildiği için tüm bu bakım planları bakım planı hazırlanırken birer taslak olarak kullanılabilir.

Anahtar Kelimeler: Hemşirelik süreci, bakım kalitesi, terapötik ilişkiler, hemşire rolü, üretken yapay zeka.

Introduction

Bachelor-prepared nurses are equipped to establish evidence-based relationships, deliver high-quality patient care, and demonstrate advanced critical thinking in the development of individualized care plans. As healthcare technologies become increasingly complex, these competencies will grow in importance.⁽¹⁾ Artificial Intelligence (AI), in particular, holds transformative potential for the healthcare delivery system and is anticipated to become an integral component of routine healthcare services.⁽²⁾ Currently, nurses utilize sophisticated technological tools in clinical practice. The transition to electronic charting has enhanced the systematic documentation of patient care and enabled the integration of clinical guidelines, decision-making directives, and algorithmic “nudges” to support and inform nursing interventions.⁽³⁾ As technological innovations continue to advance and become more accessible, nursing education and clinical practice must adapt accordingly to remain relevant and effective.⁽¹⁾ The nursing profession is in a state of continual evolution. Therefore, nurses must stay informed of emerging developments and remain responsive to changes, while maintaining their commitment to delivering safe, competent, and compassionate care. Notably, the rise of generative AI challenges us to reconsider how we assess professional competencies—highlighting the urgent need for more authentic, reflective methods of evaluation in nursing education and practice.

OpenAI, Microsoft, and Google have respectively launched ChatGPT, the New Bing, and Bard—each representing significant advancements in AI through large language models, search engines, generative AI systems, and conversational agents. ChatGPT-3.5 was initially released on November 30, 2022, followed by the release of GPT-4 on March 14, 2023.⁽⁴⁾ Bard was introduced on March 21, 2023,⁽⁵⁾ and the New Bing was launched on May 4, 2023.⁽⁶⁾ While ChatGPT⁽⁴⁾ and Bard⁽⁵⁾ offer powerful generative capabilities, they lack transparency, as they do not provide source references. In contrast, the New Bing includes citations and offers access to current information.⁽⁶⁾ Generative AI models are capable of producing original content that closely resembles human conversation and can engage users in interactive dialogue.⁽⁴⁻⁶⁾ However, no existing AI system has demonstrated the capacity to replicate human cognitive processes or genuinely “think” like a human being.^(7,8) Furthermore, chatbots are currently unable to evaluate the reliability or credibility of the data they process. As a result, they may disseminate biased, outdated, or inaccurate information and lack the ethical reasoning inherent in human communication.^(3,9,10) At present, no generative AI is recognized as a high-quality academic or clinical source, primarily because these systems cannot critically assess the quality

of the information they use to generate text.^(3,11,12) The emergence of misleading yet convincing health-related content produced by chatbots has led to concerns about an “AI information epidemic”⁽¹⁰⁾ or an “AI infodemic,” which may pose significant threats to public health.⁽³⁾

According to Munro and Hope,⁽³⁾ adopting a measured and cautious approach to the development and implementation of AI offers a balanced pathway that addresses existing concerns while also embracing the potential benefits of AI Technologies. AI language models can serve as useful tools for structuring initial ideas, augmenting human capabilities, and enriching user experiences. Alkaissi and McFarlane⁽¹³⁾ demonstrated that ChatGPT is capable of generating coherent and contextually appropriate text when provided with PubMed articles along with brief annotations for each. Owing to these functionalities, generative AI systems may offer substantial contributions to clinical practice, academic research, and nursing education.^(3,14,15) According to a report by *The New York Times*, within 72 hours of ChatGPT’s release, healthcare professionals began exploring its applications in enhancing clinical workflows, streamlining administrative responsibilities, and supporting empathetic communication with patients.⁽¹⁶⁾ However, several experts emphasize that generative AIs still require further refinement before they can effectively support the planning and delivery of nursing care.^(3,9,10,12,17) Woodnutt et al.⁽¹²⁾ argue that generative AI has no place in care planning and assessment for two primary reasons: first, collaborative care planning with patients is a cornerstone of mental health nursing; second, care planning is inherently relational and demands empathy and negotiation.⁽¹²⁾ In light of these concerns, some scholars contend that generative AI into nursing care planning may be ethically problematic and could increase legal risks for practitioners.^(18–22) Although generative AI systems may be capable of drafting care plans, these outputs often lack the authenticity, relational depth, and interactive engagement essential to mental health nursing.⁽¹²⁾ As a result, it is recommended that nurses avoid relying on generative AI when formulating mental health care plans.⁽¹²⁾ Nevertheless, while scientific databases remain indispensable, generative AI tools can complement evidence-based practice and are increasingly perceived as contributors to higher quality care when used appropriately.^(3,9,11,12) Despite their current limitations, misapplications, and potential for misuse, generative AIs hold significant promise for supporting nurses in various domains.^(3,9,10,11,17) These systems should be viewed as tools rather than collaborators; while they may assist nurses, researchers, and students, they cannot—and should not—replace professional nursing judgment or human interaction.^(3,9,11,12,23) It remains essential to evaluate how and to what extent generative AIs can enhance patient care outcomes.^(9,10,17) According to

ChatGPT, generative AIs can support nursing practice by offering case summaries and care plans that outline appropriate interventions aligned with patient needs. These technologies may enhance communication by generating conversation prompts that support nurse-patient interactions and by providing simplified, term-free, person-centered instructions and recommendations. Such features can help translate complex medical directives into more accessible language, thereby strengthening rapport and commitment between patients and nurses.⁽¹¹⁾

To date, the extent to which generative AI-generated nursing care plans can enhance the efficiency of patient care remains underexplored. In response to this gap, the present study compares the effectiveness of generative AI in supporting nursing process planning. A critical issue that must not be overlooked is the potential use of generative AI by nurses or nursing students to develop mental health care plans. However, it is still unclear whether such use leads to improvements or drawbacks in care delivery, or what type of training and support may be required to enable the responsible and effective use of generative AI in mental health nursing. This study, therefore, seeks to offer a comprehensive perspective on the future of nursing through the lens of advanced language-processing AI. Specifically, it aims to investigate the feasibility of generative AI into patient care and incorporating it into both nursing process practice and nursing education. In doing so, this research intends to provide critical insights into the implications of emerging trends, technological advancements, and systemic changes for nurses, students, patients, and the broader healthcare system.

Aim

This study aims to determine which generative AI (ChatGPT, Bard, and New Bing) can create a comprehensive and error-free psychiatric-mental health nursing care plan that addresses all the needs of a patient.

Research Questions

- 1) Can ChatGPT, Bard, and New Bing create a comprehensive and error-free psychiatric-mental health nursing care plan that addresses all the needs of a patient?
- 2) Which generative AI (ChatGPT, Bard, and New Bing) can create a comprehensive and error-free psychiatric-mental health nursing care plan that addresses all the needs of a patient?

Materials and Methods

Research Type

This descriptive and comparative study was conducted between 15.10.2023 and 22.10.2023.

Study Population and Sample

Three generative AIs (ChatGTP 3.5 version, Bard, and New Bing) were used as data collection tools. New Bing has three modes: creative, balanced, and precise. New Bing was asked what these modes meant. The creative mode was the mode of choice because it was compatible with the purpose of the study. Creative mode provides search results and generates and sources different content based on the user's requests.⁽⁶⁾

Data Collection Tools

The care plans developed by generative AIs were evaluated according to the author's knowledge, functional health patterns,⁽²⁴⁾ and the North American Nursing Diagnosis Association⁽²⁵⁾ nursing diagnoses. NANDA was the system of choice because it is the most popular nursing diagnosis system⁽²⁶⁾ and helpful in developing psychiatric-mental health nursing care plans.

Ethics Consideration

Since the study did not involve any living beings or living data, ethics committee approval was not obtained.

Data Analysis

First, an anamnesis of a patient with social anxiety disorder were presented to generative AIs. The patient's anamnesis is as follows:⁽²⁷⁾

The 17-year-old male patient, currently attending high school, has been absent from school over the past two months, citing various excuses. His initial complaints began one year ago during a social event at school. While speaking with his teachers and classmates, he experienced excessive sweating, trembling of his voice and hands, facial flushing, and rapid heartbeat. He feared that his peers and teachers would notice these symptoms and expressed concerns that his friends might mock him or choose not to associate with him. Due to his fear of voice trembling, he often refrained from answering his teacher's questions even when he knew the correct response. He rarely met with friends outside of school, and when he had to

attend such gatherings, he felt significant distress, reporting that “it feels like everyone is staring at me,” and was unable to eat in these situations. Under parental insistence, he became increasingly distressed and occasionally experienced episodes of crying and anger outbursts. Brought by his family to the mental health and psychiatry clinic, he was diagnosed with social anxiety disorder and referred to a cognitive-behavioral therapy group, with an SSRI prescribed.

Then, they were asked, “What are the symptoms of the patient according to the functional health patterns in the nursing process?”. In this way, I tried to determine whether generative AIs could accurately determine the patient’s symptoms. Second, generative AIs were asked, “Can you make NANDA nursing diagnoses for this patient?” to investigate whether they could make accurate and complete NANDA nursing diagnoses by evaluating the patient’s history. Third, generative AIs were asked, “Can you develop a nursing care plan including the steps of goals, plans, and interventions in the nursing care plan for social anxiety disorder?” Fourth, generative AIs were asked, “What can be written in the nursing care steps called goals, plans, and intervention for social anxiety disorder? Thus, I tried to determine whether they could create a nursing care plan when different commands were entered. Social anxiety disorder was the diagnosis of choice for two reasons. First, the patient was being treated for social anxiety disorder. Second, ChatGPT and New Bing correctly wrote the anxiety diagnosis according to NANDA. Finally, generative AIs developed care plans.

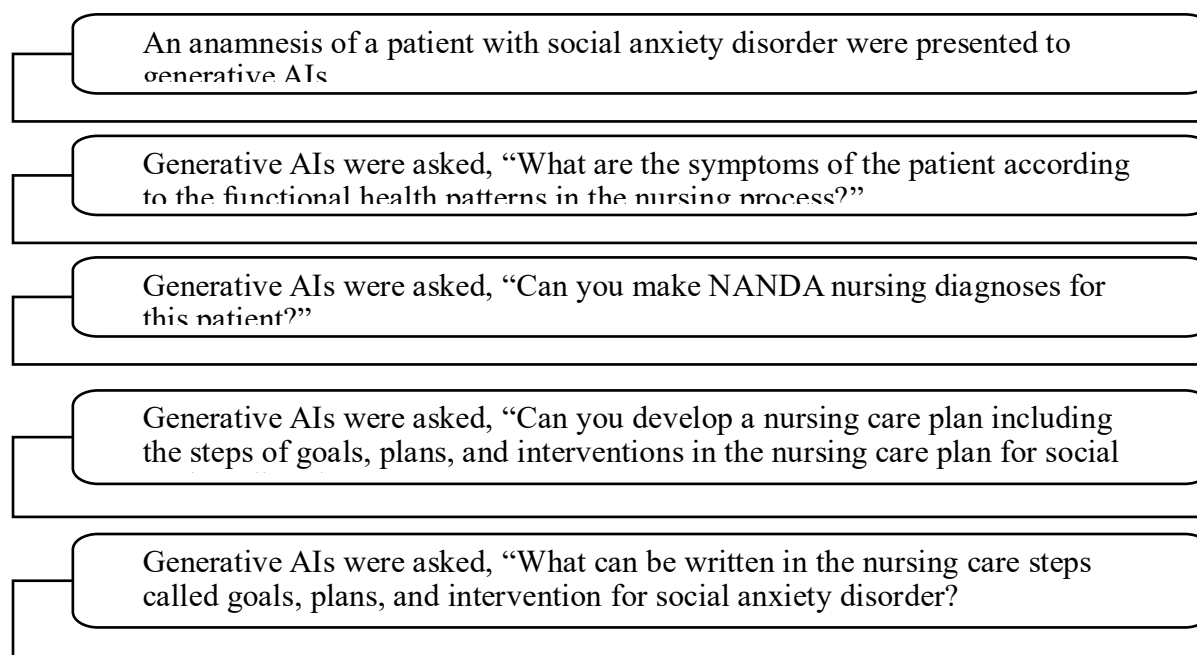


Figure 1. Research Process

Results

This section presented the research results. The responses to the first question, “What are the symptoms of the patient according to the functional health patterns in the nursing process?” were analyzed. ChatGPT could describe the patient’s symptoms. However, ChatGPT and Bard failed to assess the patient’s symptoms within the framework of functional health patterns. Bard listed symptoms of stomach pain, difficulty breathing, insomnia, and difficulty eating that were not included in the patient history. Only New Bing could address the patient’s symptoms accurately and entirely within the framework of functional health patterns. New Bing also addressed potential risks. In conclusion, ChatGPT ranked the patient’s symptoms best but failed to do so according to functional health patterns.

The responses to the second question, “Can you make NANDA nursing diagnoses for this patient?” were analyzed. ChatGPT, Bard, and New Bing failed to define nursing diagnoses accurately and entirely according to NANDA. According to NANDA, ChatGPT correctly wrote the diagnosis of anxiety, while New Bing correctly wrote the diagnoses of anxiety and social isolation. ChatGPT performed accurate and complete diagnostics based on the patient’s history. Bard and New Bing neither addressed intra-family processes nor the problems included in the content of NANDA nursing diagnoses (disruption in the continuity of intra-family processes and inadequacy in family coping). Bard did not address the patient’s self-esteem or self-confidence problems or suggest a related diagnosis (Table 1).

Third, generative AIs were asked, “Can you develop a nursing care plan including the steps of goals, plans, and interventions in the nursing care plan for social anxiety disorder?” Although not asked, Bard and New Bing gave information about the evaluation step in the nursing process. ChatGPT, Bard, and New Bing generally made scientifically accurate and valid statements about goals, plans, and interventions. ChatGPT set four goals and included the patient and the family. New Bing did not explain the planning step. Bard outperformed ChatGPT and New Bing in the planning and intervention steps (Table 2).

Fourth, generative AIs were asked, “What can be written in the nursing care steps called goals, plans, and intervention for social anxiety disorder?” to get them to develop another care plan. New Bing was able to create a planning step. ChatGPT, on the other hand, did not include the family in the goals. Bard and New Bing outperformed ChatGPT in the planning and intervention steps. Bard also proposed individualized interventions (Table 3).

Table 1. NANDA Nursing Diagnoses Made By Generative AIs

ChatGPT	Bard	Yeni Bing
1. Risk for social isolation	1. Anxiety disorder	1. Social isolation
2. Anxiety	2. Impairment of self-activity	2. Lack of self-confidence
3. Low self-esteem	3. Impaired social interaction	3. Coping – Ineffective stress tolerance
4. Lack of social skills		4. Anxiety
5. Dysfunctional family processes		

Table 2. The First Nursing Care Plans Generated By Generative AIs

ChatGPT	Bard	New Bing
<p>Goals:</p> <ol style="list-style-type: none"> 1. The patient will experience less anxiety and have a better quality of life. 2. The patient will be able to cope with anxiety symptoms. 3. Encouraging the patient to participate in social activities and develop strategies to reduce social anxiety. 4. Teaching the patient and his family members how to manage anxiety. <p>Interventions:</p> <p>1. Assessment and Monitoring:</p> <ul style="list-style-type: none"> ○ Interviewing the patient to assess his anxiety and symptoms. ○ Anxiety assessment tools can be used to monitor the patient's anxiety level. <p>2. Training and Awareness Raising:</p> <ul style="list-style-type: none"> ○ Educating the patient and his family members about anxiety disorder ○ Teaching the patient and his family members how to recognize the symptoms of anxiety and adopt coping strategies. <p>3. Individual Therapy:</p> <ul style="list-style-type: none"> ○ Individual therapy may be recommended. Approaches like cognitive-behavioral therapy (CBT) can be beneficial in managing anxiety. <p>4. Group Therapy:</p> <ul style="list-style-type: none"> ○ Group therapy may be recommended to reduce the patient's social anxiety. These therapies can provide a supportive and relaxing environment for the patient. <p>5. Monitoring Drug Therapy:</p> <ul style="list-style-type: none"> ○ If the patient has been prescribed antidepressants or anxiolytic drugs, it is important to monitor whether he is taking them regularly. <p>6. Stress Management:</p>	<p>Goals:</p> <ul style="list-style-type: none"> • The patient's anxiety level will decrease to acceptable limits. • The patient will acquire knowledge and develop skills necessary to recognize and manage anxiety symptoms. <p>Plans:</p> <ul style="list-style-type: none"> • Informing the patient about the symptoms of anxiety. • Teaching the patient anxiety management techniques. • Helping the patient will connect with supportive people. <p>Interventions:</p> <ul style="list-style-type: none"> • Intervention 1: Informing the patient about the symptoms of anxiety. • Informing the patient about the physical and emotional symptoms of anxiety. • Helping the patient identify the causes and triggers of anxiety. • Intervention 2: Teaching the patient anxiety management techniques. • Teaching the patient deep breathing and relaxation exercises and distraction techniques. • Encouraging the patient to practice these techniques on a regular basis. • Intervention 3: Helping the patient connect with supportive people. • Helping the patient connect with family members, friends, and professional supporters. • Encouraging the patient to create a positive support system to help him cope with anxiety. • Assessment: • This nursing care plan aims to help the patient experience less anxiety and develop skills to cope with anxiety. 	<p>Goal: Symptoms and signs of anxiety will not be observed. The patient will be able to develop effective coping strategies.</p> <p>Interventions:</p> <ul style="list-style-type: none"> • Evaluating the symptoms and signs of anxiety and fear. • Establishing a reassuring communication with the patient. • Listening to the patient and providing opportunities for self-expression. • Informing the patient about his current condition, disease, and treatment. • Answering the patient's questions and correcting his false beliefs. • Teaching the patient relaxation exercises, deep breathing and meditation techniques to help him experience less anxiety • Suggesting stress-reducing activities (listening to music, reading, painting, etc.). • Explaining the patient that physical activity (sports) reduces anxiety and encouraging him to engage in physical activity • Identifying the patient's sources of social support and ensuring that he benefits from them. • Cooperating with the patient's family members and informing them about the patient's condition. • Monitoring the patient's compliance with drug therapy and evaluating him in terms of side effects. <p>Assessment: The patient states that he does not show signs and symptoms of anxiety. He says that he uses effective coping strategies. He states that he is more comfortable in social situations. He reports that he complies with the medication and does not experience any side effects. He notes that he has communicates much better with his family members</p>

- The patient should learn stress management techniques. Deep breathing exercises, meditation and muscle relaxation techniques may be recommended.

7. Social Skills Training:

- The patient can receive training to develop social skills. He can be taught to talk, build relationships, and communicate effectively with people.

8. Building a Support Network:

- The patient should create a support network. Family members, friends or support groups can be part of this network.

9. Follow-up and Progress Monitoring:

- The patient's progress should be monitored regularly, and if necessary, his treatment plan should be revised.

and friends. He adds that he enjoys a better quality of life and feels more confident.

Table 3. The Second Nursing Care Plans Created By Generative AIs

ChatGPT	Bard	New Bing
<p>Goals:</p> <p>1.Reducing anxiety:</p> <ul style="list-style-type: none"> ○ The patient will experience significantly less anxiety. <p>2.Managing the symptoms of anxiety:</p> <ul style="list-style-type: none"> ○ The patient will cope more effectively with the symptoms of anxiety. <p>3.Increasing social inclusion:</p> <ul style="list-style-type: none"> ○ Encouraging the patient to attend school and social activities. <p>4.CBT:</p> <ul style="list-style-type: none"> ○ The patient will start learning CBT techniques. <p>Planning and Execution:</p> <p>1.Reducing anxiety:</p> <ul style="list-style-type: none"> ○ Setting individual goals with the patient and developing strategies to help him achieve them. For example, encouraging him to do relaxation exercises on a regular basis. <p>2.Managing the symptoms of anxiety:</p>	<p>Goals:</p> <p>The patient's anxiety level will decrease to acceptable limits.</p> <p>The patient will acquire the knowledge and develop the skills necessary to recognize and manage anxiety symptoms.</p> <p>The patient will avoid social situations less.</p> <p>Planning</p> <p>Informing the patient about the symptoms of anxiety</p> <p>Teaching the patient anxiety management techniques</p> <p>Making sure that the patient is exposed to more social settings. Helping him develop social skills and have positive experiences.</p> <p>Interventions</p> <p>Intervention 1: Informing the patient about the symptoms of anxiety.</p> <p>Informing the patient about the physical and emotional symptoms of anxiety.</p>	<ul style="list-style-type: none"> • Goals: The patient will experience less anxiety, adopt more effective coping strategies, and become more socially functional. • Planning: Establishing a safe and supportive relationship with the patient to assess the causes and symptoms of anxiety. Encouraging the patient to attend CBT sessions. Teaching the patient interventions that reduce anxiety (relaxation techniques, positive thinking, problem solving and social skills training). Monitoring patient adherence to drug therapy. Providing education and counseling to the patient's family members. • Execution: Establishing an empathetic and respectful communication with the patient. Giving him the opportunity to express his feelings. Asking him to rate his anxiety on a scale of 1 to 10. Observing and recording his anxiety symptoms. Explaining to him the benefits of CBT and encouraging him to attend CBT sessions. Implementing or teaching him

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- The patient should learn strategies (deep breathing exercises, meditation, and problem solving skills) to cope with the symptoms of anxiety.

3. Managing the symptoms of anxiety:

- The patient should set progressive goals to increase school attendance. First, setting a short-term attendance goal and increasing it over time to help him adjust to school.

4. CBT:

- The patient should attend CBT sessions to learn its basic principles and techniques. Attending CBT sessions can help him change his thinking patterns.

Helping the patient identify the causes and triggers of anxiety.

Intervention 2: Teaching the patient anxiety management techniques.

Teaching the patient deep breathing and relaxation exercises and distraction techniques.

Encouraging the patient to practice these techniques on a regular basis.

Intervention 3: Making sure that the patient is exposed to more social settings. Helping him develop social skills and have positive experiences.

Encouraging the patient to step into social situations that help them cope with anxiety.

Organizing group or individual therapies to help the patient develop social skills.

Supporting the patient to have successful experiences in social settings.

Tailored Interventions

Helping the patient identify the causes and triggers of anxiety: Helping the patient identify the causes and triggers of anxiety is important to help him develop strategies to manage his anxiety.

Encouraging the patient build a positive support system to help him cope with anxiety: It is important for the patient to connect with family members, friends, and professional supporters to cope with anxiety.

Supporting the patient's academic performance and social development: Supporting the patient's academic performance and social development will help him cope with anxiety.

Assessment

This nursing care plan aims to help the patient experience less anxiety, develop coping skills, and participate in social situations.

interventions such as relaxation techniques (deep breathing, progressive muscle relaxation, meditation, etc.), positive thinking (using positive statements, questioning and changing negative thoughts, etc.), problem solving (defining a problem, generating alternative solutions, choosing and implementing the best solution, etc.), and social skills training (acting confidently in social situations, using body language, communicating, etc.). Assessing his adherence to drug treatment and monitoring him for possible side effects. Informing his family members about anxiety disorder and making suggestions to increase their communication with him and their support for him.

Discussion

The results suggest that ChatGPT, Bard, and New Bing alone cannot generate a comprehensive and accurate psychiatric-mental health nursing care plan that fully meets a patient's needs. However, nurses can utilize their critical thinking skills and consider the suggestions offered by generative AIs to develop drafts of care plans. Each generative AI excels in specific care plan steps, making it possible for nurses to use AI-generated care plans as foundational models. By leveraging their expertise and experience, nurses can craft scientifically accurate, comprehensive, and valid care plans.

Nurses must acknowledge the crucial role of generative AIs in delivering safe and effective care.⁽¹¹⁾ These AIs can offer precise and personalized solutions to diverse healthcare queries, keeping nurses informed about the latest research and optimal practices.⁽²⁸⁾ They can identify nursing interventions and craft care plans tailored to individual patient needs.⁽¹¹⁾ While opinions on this matter may vary,^(11,12,14,23) Generative AIs have the potential to support the creation of psychiatric-mental health nursing care plans.⁽²⁹⁾ Nonetheless, nurses must follow professional standards and verify that outputs from generative AIs are current, accurate, and comprehensive before applying them in practice, as their reliability remains insufficiently validated.⁽⁹⁾ Evaluating the impact of AI technological advancements on patient care and healthcare delivery is crucial.^(12,29) This study represents one of the initial investigations into the utility of generative AIs for patients. Such research^(9,12,23,29) marks just the beginning of promising advancements in AI within nursing.

Researchers have yet to assess the care plans generated by Bard and New Bing, highlighting the originality of this study, which involved a comparison of the quality of care plans developed by ChatGPT, Bard, and New Bing. Although nursing care plans generated by ChatGPT may align with current National Institute for Health and Care Excellence guidelines and serve as templates for experienced nurses, they may pose risks for less experienced users or students who might struggle to recognize their limitations and errors.^(12,29) While ChatGPT can identify patients' physical needs, it falls short in generating nursing diagnoses for psychosocial and spiritual aspects, limiting the comprehensiveness of its mental health care plans.⁽²⁹⁾ This may reinforce implicit biases, suggesting that care plans developed by generative AIs have some faulty and incomplete aspects.^(12,29) While generative AIs like ChatGPT can produce comprehensive and accurate care plans when provided with appropriate prompts, doing so requires professional knowledge and experience; otherwise, inexperienced users may generate incomplete plans, reinforcing implicit biases—yet our findings suggest these AI-

generated drafts can aid in identifying such gaps and may be effectively integrated into care plan training programs, as supported by previous research.⁽²⁹⁾ Generative AIs can significantly enhance students' learning experiences by providing easier access to information on various subjects.^(28,30-32)

Generative AIs can improve patient-nurse communication by providing clear, easily understandable instructions and advice free from technical terms and tailored to patients' needs.⁽¹¹⁾ They can save both students and nurses considerable time and effort by streamlining tasks like condensing lengthy patient information^(11,28,30-32) and ensuring patients receive optimal care.^(27,30,31) Generative AIs not only benefit patients but also enhance nurses' skills and knowledge, simplifying their work and making it more efficient.⁽³³⁾ These AIs assist nurses with routine tasks, allowing more time for human-centered duties such as patient education and emotional, psychological, and social support; by minimizing errors and improving care efficiency, generative AIs can substantially enhance nursing practice, though nurses will continue to play a central role in patient-centered care, assessments, and care coordination.^(28,30,33) Nurses should persist in providing holistic, patient-centered care while incorporating generative AIs alongside their clinical expertise and knowledge.⁽²⁸⁾

More and more healthcare professionals turn to generative AIs to enhance care delivery, establishing AI as an increasingly integral aspect of nursing practice, akin to traditional methodologies.^(34,35) Generative AI education into nursing curricula will better equip students for the evolving profession, as AI applications can assist student nurses in interpreting complex medical data, recognizing health patterns, and making informed decisions, thereby potentially improving patient outcomes and healthcare efficiency; furthermore, ethical and moral considerations increasingly shape nurses' professional responsibilities in the AI era.⁽¹⁸⁻²²⁾ To ensure responsible use of generative AIs, it is crucial to integrate critical technology analysis into nursing education,^(11,14,32) equipping students for the dynamic technological shifts in healthcare.⁽³²⁾ Pending regulatory mechanisms on AI, nurses can take proactive steps to safeguard nursing ethics. For instance, collaboration between nursing educators and students to establish clear ethical guidelines for generative AIs is essential.⁽¹⁴⁾ Additionally, nurses should have a say in decisions concerning these crucial technologies.⁽¹¹⁾

Results and Recommendations

Our results indicate that draft care plans generated by generative AIs can assist in identifying their errors and omissions. Although not asked, Bard and New Bing gave

information about the evaluation step in the nursing process. ChatGPT, Bard, and New Bing generally made scientifically accurate and valid statements about goals, plans, and interventions. ChatGPT set four goals and included the patient and the family. New Bing did not explain the planning step. Bard outperformed ChatGPT and New Bing in the planning and intervention steps. Generative AIs were asked, “What can be written in the nursing care steps called goals, plans, and intervention for social anxiety disorder?” to get them to develop another care plan. New Bing was able to create a planning step. ChatGPT, on the other hand, did not include the family in the goals. Bard and New Bing outperformed ChatGPT in the planning and intervention steps. Bard also proposed individualized interventions.

Nurses can use the care plans developed by generative AIs as blueprints because they provide good outcomes for different care plan steps. Nurses can utilize their critical thinking skills and consider the suggestions offered by generative AIs to develop drafts of care plans. Our results showed that ChatGPT, Bard, and New Bing made scientifically accurate and valid statements about the goals, plans, and interventions that can be included in a nursing care plan tailored to our case. In line with their knowledge and experience, nurses or nursing students can develop patient-centered and patient-specific psychiatric-mental health nursing care plans that are scientifically valid, accurate, and complete. Generative AIs can be integrated into student care plan training programs.

Generative AIs seem to provide numerous benefits and opportunities to the healthcare system, nurses, nursing education, and patients. In the future, generative AIs will be integrated into nursing to improve patient outcomes, increase the efficiency of care, and reduce errors and gaps in care delivery. In the future, generative AIs will work more perfectly. Therefore, nurses will be able to use them as formal tools to develop care plans. Nurses must know about and adapt to generative AIs, which not only benefit patients but also improve nurses’ skills and knowledge, making their practice more manageable and efficient. This is because generative AIs can provide nurses with fast, up-to-date, accurate, complete, and individualized answers to their questions about a wide range of nursing services. Generative AIs can be incredibly helpful in supporting nurses and nursing students with routine tasks. However, they can’t substitute authentic, personalized care, emotional support, patient assessment, and nurses’ pivotal role in care planning and coordination. The human touch and expertise nurses provide are irreplaceable. We need more studies evaluating care plans generated by generative AIs so that this technology can be used safely in mental health nursing care plan creation to reduce ethical

concerns and biases. Currently, nurses should be careful when using generative AIs. Accordingly, health policy should protect patients and nurses.

Limitation

ChatGPT 3.5 version was used, unfortunately ChatGPT 4 version was not used in the study. Generative AIs correspondence was carried out in Turkish. In the study, only one case analysis of a patient with social anxiety disorder was conducted. Therefore, the study results cannot be generalized to all psychiatric-mental health nursing care plans. ChatGPT, Bard, and New Bing by itself could not create a comprehensive and error-free psychiatric-mental health nursing care plan that addresses all the needs of a patient. However, when they were used together, it was created. All of ChatGPT, Bard, and New Bing could create a comprehensive and error-free psychiatric-mental health nursing care plan that addresses all the needs of a patient that was determined. This is the first study in the literature to evaluate generative AIs for psychiatric-mental health nursing care plan.

A notable limitation of this study is the reliance on generative AI tools for certain analyses and content generation. Since some of the insights and textual outputs were produced by AI rather than being derived directly from the researcher's independent evaluations, there is an inherent risk regarding the objectivity, interpretative depth, and accuracy of these contributions. This reliance on AI-generated content may affect the authenticity and contextual nuance that typically arise from human scholarly judgment. Therefore, the involvement of AI in content creation should be transparently acknowledged as a methodological limitation, and readers are advised to interpret the findings with this consideration in mind.

Conflict of Interests

The author has no conflict of interests to declare.

Author contributions

Idea/Concept: ; Design: .; Supervision/Consulting: ; Analysis and/or Interpretation:;
Literature Search: ; Writing the Article: .; Critical Review:

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