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Review

A New Trend in Nursing Education; Example of Artificial Intelligence, ChatGPT

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Abstract

ChatGPT is an artificial intelligence language model developed based on a large database. When the use of ChatGPT in nursing education is evaluated, several important factors emerge. ChatGPT assists in reinforcing theoretical knowledge, can provide students with structured training opportunities in laboratory practices by creating checklists, and saves time by offering prompt responses. However, there are disadvantages such as limited reality and a deficiency in clinical application. ChatGPT cannot provide a real patient experience and has limitations in its clinical use. Using ChatGPT in assignments may lead to issues concerning citation, copyright, and ethics. In addition, concerns may arise regarding the protection of patient privacy and confidentiality. Therefore, potential problems arising from the program's use should be discussed with students, and critical thinking should be encouraged. This review is prepared with the aim of examining the advantages and disadvantages of using ChatGPT in nursing education.

Keywords: Artificial intelligence, ChatGPT, nursing education.

Artificial intelligence (AI) is a technology that allows computer programs to gain the ability to think and learn like humans. In its simplest sense, this technology is used for computers to analyze large amounts of data, recognize patterns, and perform various tasks. Thanks to the computational speed and data storage capacity that computers have, AI can help with complex solutions and managing new information. In addition to helping people quickly access the data they want, AI has the potential to manage huge networks such as businesses and nations and ensures that these networks are accessible to everyone.[1]

What is ChatGPT?

ChatGPT, a very popular AI product recently, is a language model provided by OpenAI (OpenAI - a company that conducts research and development in the field of AI). This model can be used for tasks such as reading, text generation, text completion, question-answer, and matching with a large data library. The quality of the text produced is very good and it is really hard to distinguish it from a text written by humans. Unlike search engines such as Google, ChatGPT does not search for answers to questions directly in data found on the internet or use pre-

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programmed answers to questions. The GPT-3.5 version of ChatGPT was trained with data available until 2021, so it is unaware of the latest information.[2] Since the data and the complex structure in this data are constantly changing, it may not be considered an effective and up-to-date AI model.[1] While ChatGPT can be considered a learning opportunity, as in all AI products, it is also worrying because it can lead to abuse.[2,3] However, software like ChatGPT is considered to be intelligent (metaphorically speaking), a tool that will support the dissemination of relatively simple, accessible information. Science has always been a human endeavor, and positive approaches such as embracing and using new technologies rather than being hesitant about the technology that develops with science are more constructive. Science and technology have no intention of eliminating the human element. How to deal with the next conceptual step of critical thinking and analytical AI that will contribute to science in the future seems worth planning for now. With this technology, humanity can be freed to perform higher and more valuable activities.[4]

In a literature review aiming to explore the impact of AI tools and techniques on academic research and their potential implications for academic ethics, it has been stated that ChatGPT is a powerful tool capable of generating text in various formats, conducting literature searches, and suggesting titles for the produced text. However, using ChatGPT to select topics with low similarity scores in plagiarism/similarity checkers could result in ethical violations. The application of AI in academic research may give rise to ethical concerns, and technologies that can detect such violations may have limitations.[5]

With the development of technology, the use of AI has rapidly increased in many fields such as health, automotive, e-commerce, finance, and education. In addition, the increase in the time spent at home due to the COVID-19 pandemic that has affected the whole world and the interruption of face-to-face education and clinical practices has increased the interest of nursing students in AI, as in every undergraduate program.[6] In this review, our aim is to examine and discuss the use of ChatGPT in nursing education, its advantages and disadvantages.

Use of ChatGPT in Nursing Education

ChatGPT has resonated with its improved capacity to perform highly complex tasks. ChatGPT's extraordinary abilities to perform complex tasks in the field of education have created mixed feelings among educators and have revolutionized current educational practices. Policymakers, researchers, educators, and technology experts can work together to initiate conversations about how these evolving

and productive AI tools can be used safely and constructively to improve education and support student learning.[7]

Two months after ChatGPT's initial launch, monthly active users have surpassed 100 million, making ChatGPT the fastest-growing consumer application ever. Among users new to AI, ChatGPT is an application that has a simple user interface that hides all the technical details and, more importantly, can outperform almost anything else in terms of answering a wide range of questions. The dataset used for ChatGPT training today consists of over 145 million conversations scraped from various social media and online knowledge bases (e.g., Twitter, Reddit, and Wikipedia). ChatGPT is expected to continue to exist in the future. As the first genuine and universal AI product, it is not surprising that a wide range of concerns have emerged.[8]

Nurse researchers in the field of digital health technology and AI emphasize that it is necessary to deal not only with the security issues of ChatGPT but also with the ethical values and principles that underlie the unique nursing discipline. Some journals of nursing have discussed the potential benefits, risks, and limitations of using ChatGPT in nursing practice and education.[9–11]

The company behind it has acknowledged that ChatGPT cannot guarantee the confidentiality of the information shared with it. ChatGPT's limitations in handling sensitive information could compromise the privacy that is essential in nursing practice. Utilizing OpenAI tools like ChatGPT inappropriately may also harm the nurse–patient relationship, leading to a lack of trust in health-care systems. In addition, there is a need to reflect on the use of ChatGPT in the context of the nursing decision-making process. ChatGPT leverages deep learning algorithms to analyze data sets, recognize patterns, and generate text based on the input it receives.[12]

In the literature that aims to provide a comprehensive overview of the future of nursing through the lens of the ChatGPT model, insights into the impact of the integration of AI on nurses, patients and the health-care system are discussed. In this context, it is known that the future of the nursing profession is open to continuous development and change, and nurses must follow the latest developments while maintaining their commitment to providing quality patient care.

Advantages of Using ChatGPT in Nursing Education

Using ChatGPT in nursing education has advantages such as providing students with an interactive learning experience, helping them reinforce theoretical knowledge, and saving time by creating answers quickly. These advantages are explained under the following headings:
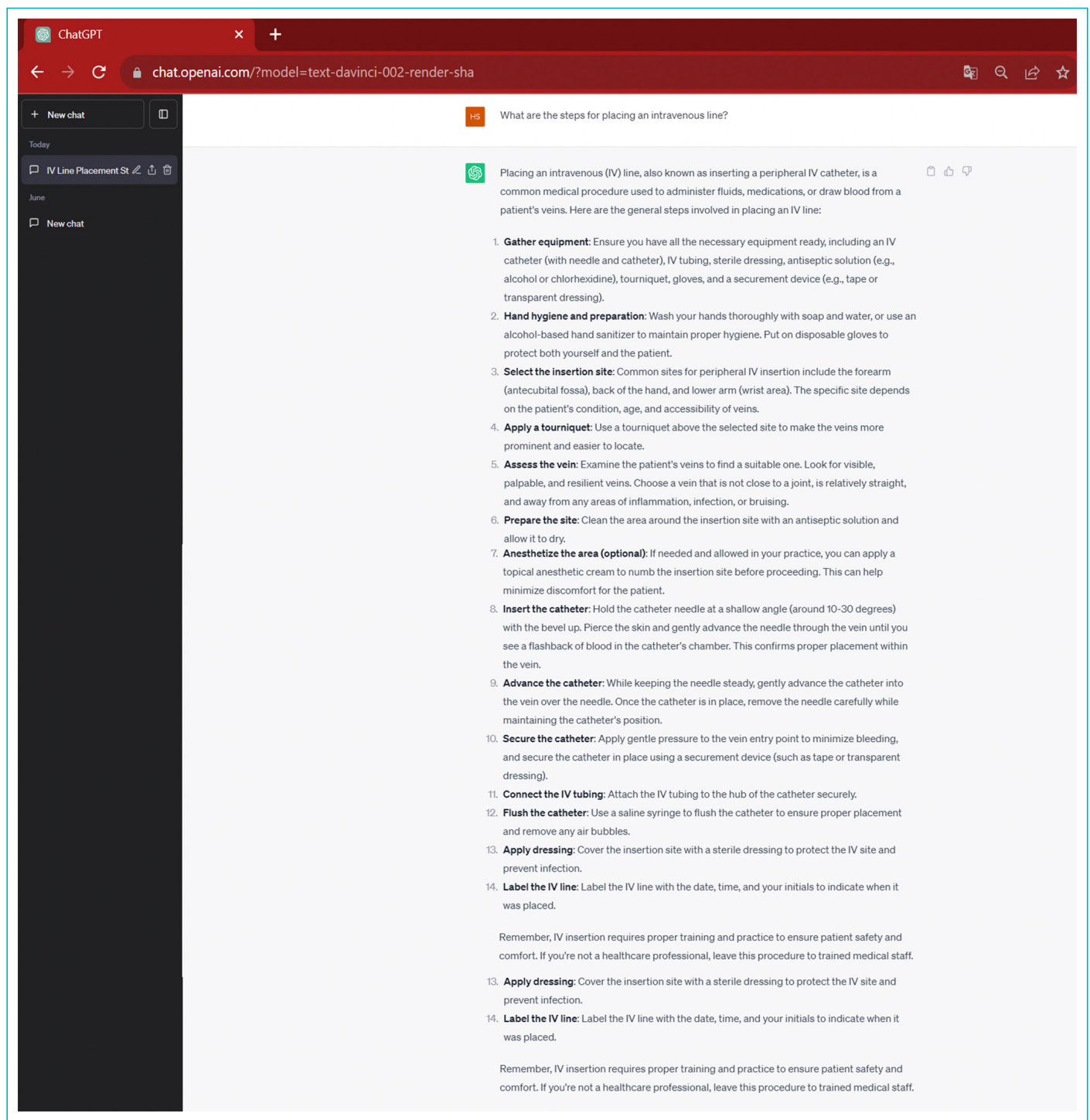
Figure 1. IV Catheter placement steps.

Access to Information and Resources

Since ChatGPT is trained based on a large database of information, nursing students can quickly learn about topics such as skills, diseases, and medications, and easily find answers to their questions. ChatGPT also has great potential to support clinicians and researchers.[2]

Saving Time

Nurses and nursing students can use ChatGPT to quickly find information about medications, procedures, and patient care and to communicate with colleagues in real time. This can save valuable time and help ensure that patients receive the best possible care.[10]

Student Support

Laboratory practices in nursing education enable theoretical knowledge to be converted into practical skills and students to step into clinical environments more prepared. Checklists used in nursing education ensure that students complete laboratory practices in a structured and disciplined manner. ChatGPT can create checklists for nursing students regarding laboratory examinations or nursing interventions. In this context, we asked ChatGPT about the steps for placing an intravenous catheter, which is one of the most common and well-known nursing interventions. ChatGPT's native language is English, so our question was "What are the steps for placing an intravenous line?" ChatGPT's response was formally organized, understandable, and in a clear language; the information it provided was consistent with the literature and at a level that could guide a nursing student (Fig. 1).[13]

Disadvantages of Using ChatGPT in Nursing Education

The use of AI models such as ChatGPT in nursing education cannot provide students with real patient experiences, develop skills, and empathy. Using ChatGPT for homework may create ethical problems. These disadvantages are explained under the following headings.

Limited Reality

ChatGPT is only an AI model and is only as good as the data it is trained on, so the information provided by ChatGPT may not be sufficient or accurate. In addition, an AI model can never fully replace a real drawing or teacher, and nursing students cannot experience the real patient experience.[14,15]

Lack of Clinical Practice

Hospital practices help students to develop their professional skills and gain real patient care experience by putting their theoretical knowledge into practice. It is not possible for the information and recommendations provided by ChatGPT to fully correspond to clinical practice. In addition, it is limited in terms of humanistic approach to the individual because it cannot access special information about the individual conditions or medical history of patients.[12,16]

Ethical Issues

Can an AI chatbot really provide consent for the study and be responsible for its content? Even if ChatGPT is listed as a source in various articles, it is a matter of debate in the International Committee of Editors of Medical Journals whether ChatGPT meets the criteria for authorship. There are numerous ethical considerations related to citation, copyright and plagiarism, and authorship when nursing students refer to ChatGPT for their assignments.[17]

On the other hand, there are concerns about the protection and confidentiality of information regarding the entrustment of patient-related data to ChatGPT. It may damage the principle of privacy and confidentiality, which is one of the ethical principles of the nursing profession, and may also damage the nurse–patient relationship. In addition, nurses have a legal and ethical responsibility to protect patients' information at all times.[11]

Conclusion and Recommendations

The development of AI models such as ChatGPT will continue to progress and they will certainly find a way into nursing practice, education, and research. Factors such as ChatGPT being accessible and fast at all times and offering a different learning experience may encourage nursing students to use ChatGPT. It can provide a step-by-step and structured guide to students by creating a checklist for nursing interventions. However, it should be confirmed whether the information is compatible with the literature and it should not be forgotten that the native language is English. When questions are asked in different languages, there is a possibility that the question may not be answered with the correct words.

It is important to approach the use of AI programs such as ChatGPT with cautious curiosity rather than completely banning them from being used by students. Nursing academics may consider working with students to create clear guidelines and ethical standards governing the use of applications. The nursing profession is a value-based profession that values compassion, empathy, care, respect, and dignity. The fact that AI applications such as ChatGPT are not fully compatible with such a humanistic discipline and the potential problems that may arise from the use of the program should be discussed with students and they should be encouraged to think critically.

Limitations

ChatGPT is a new AI product, and in this context, there is a need for literature and research on the subject in nursing education.

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