

Chapter 1

Evaluating the Efficacy of ChatGPT as a Valuable Resource for Pharmacology Studies in Traditional and Complementary Medicine (T&CM) Education

ABSTRACT

Artificial intelligence (AI) is gaining increasing prominence in the field of education, yet comprehensive investigations into its underlying patterns, research limitations, and potential applications remain scarce. ChatGPT, an AI-powered platform developed by the AI research and deployment company OpenAI, allows users to input text instructions and receive prompt textual responses based on its machine learning-driven interactions with online information sources. This study aims to assess the efficacy of ChatGPT in addressing student-centered medical inquiries pertaining to pharmacology, thereby examining its relevance as a self-study resource to enhance the learning experiences of students. Specifically, the study encompasses various domains of pharmacology, such as pharmacokinetics, mechanism of action, clinical uses, adverse effects, contraindications, and drug-drug interactions. The findings demonstrate that ChatGPT provides pertinent and accurate answers to these questions.

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BACKGROUND

Artificial intelligence's (AI) advantages haven't been fully tapped into in education. The technological and pedagogical expertise of teachers in AI is crucial for the successful integration of AI into education (Celik, 2023). Artificial intelligence (AI) refers to the simulation of human intellect in devices that have been designed to think and behave like people. These robots can carry out activities that ordinarily need human intellect, including as comprehending language, identifying pictures, and making judgements. They are created to learn, reason, and solve problems in a way that is similar to human cognition (O'Connor & ChatGPT, 2023).

ChatGPT allows users to enter text prompts and rapidly generates text responses drawn from its knowledge acquired via machine learning in engagement with the internet. AI platform called ChatGPT is made available to the public in 2022 for free use (Pavlik, 2023). Beyond the academic community, there has been a lot of interest in the release of ChatGPT, a language model that can produce writing that seems real and human-like. ChatGPT is trained on a large dataset of human conversations and can be used to create responses to a wide range of topics and prompts. The chatbot can be used for customer service, content creation, and language translation tasks, creating replies in multiple languages (Aydin & Karaarslan, 2022).

METHODOLOGY

ChatGPT were tested from selected question prepared from pharmacology (Lippincott's Illustrated Reviews Series), fifth edition in Unit VII (chemotherapeutic drug) (Harvey et al., 2011). The unit was selected randomly and the questions were prepared in different domain of drug's pharmacokinetics, mechanism of action, clinical uses, adverse effect, contraindications and drug-drug interactions. Some of the questions were ask from already available text book to test the response of ChatGPT. List of questions prepared to test ChatGPT were given in table 1.

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