

Assessing the Applicability and Appropriateness of ChatGPT in Answering Clinical Pharmacy Questions

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Abstract

Objectives : Clinical pharmacists rely on different scientific references to ensure appropriate, safe, and cost-effective drug use. Tools based on artificial intelligence (**AI**) such as ChatGPT (**Generative Pre-trained Transformer**) could offer valuable support. The objective of this study was to assess ChatGPT's capacity to correctly respond to clinical pharmacy questions asked by healthcare professionals in our university hospital.

Material and Methods : ChatGPT's capacity to respond correctly to the last 100 consecutive questions recorded in our clinical pharmacy database was assessed. Questions were copied from our FileMaker Pro database and pasted into ChatGPT March 14 version online platform. The generated answers were then copied verbatim into an Excel file. Two blinded clinical pharmacists reviewed all the questions and the answers given by the software. In case of disagreements, a third blinded pharmacist intervened to decide.

Results : Documentation-related issues (n=36) and drug administration mode (n=30) were preponderantly recorded. Among 69 applicable questions, the rate of correct answers varied from 30% to 57.1% depending on questions type with a global rate of 44.9%. Regarding inappropriate answers (n=38), 20 were incorrect, 18 gave no answers and 8 were incomplete with 8 answers belonging to 2 different categories. No better answers than the pharmacists were observed.

Conclusions : ChatGPT demonstrated a mitigated performance in answering clinical pharmacy questions. It should not replace human expertise as a high rate of inappropriate answers was highlighted. Future studies should focus on the optimization of ChatGPT for specific clinical pharmacy questions and explore the potential benefits and limitations of integrating this technology into clinical practice.

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