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Evaluating the Quality of Cardiovascular Disease Information from AI Chatbots: A Comparative Study

Artificial intelligence (AI) is an informational resource, with a high volume of users attracted to its instantaneous results. The objective of this study is to assess the quality of medical information provided by four prominent chatbots — Bard, ChatGPT 3.5 Claude 2.0, and Perplexity —focusing on three prevalent cardiovascular diseases (CVD): myocardial infarction, heart failure, and arrhythmia. The evaluation assesses understandability, actionability, readability, the quality of chatbot responses, and the presence of misinformation. These criteria were analyzed using DISCERN, PEMAT5, and Flesch-Kincaid reading scores. Bard produced responses with a statistically lower Flesch-Kincaid readings score compared to the three other chatbots, and Bard and ChatGPT 3.5 produced statistically significant actionable responses. Among the CVD evaluated, it is important to note that "heart attack" produced lower grade level responses than "arrhythmia" and more actionable responses than both "arrhythmia" and "heart failure." This would be one of the first, if not the first, studies to assess AI credibility for the future of the dissemination of cardiovascular information for patients. As artificial intelligence advances, ongoing research and collaboration between healthcare professionals, researchers, and technology developers will ensure the safe and effective use of AI in empowering patients and improving public health outcomes.