

B22

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

The use of artificial intelligence (AI) in the dissemination of scientific information has grown substantially. Today, chatbots such as Bard AI, ChatGPT, Claude 2.0, and Perplexity.AI are being used as a knowledge source, interpreting and condensing large amounts of information. In this project, using Google Trends, the top three cardiac pathologies from September 29, 2018, to September 29, 2023, were found to be myocardial infarctions, heart failures, and arrhythmias. Within these three pathologies, the top five search queries for each were identified on Google Trends and inputted into the four AI chatbots. The chatbot responses were then evaluated using three validated instruments: DISCERN⁴, the understandability and actionability domains of the Patient Education Materials Assessment Tool (PEMAT)⁵, and the Flesch-Kincaid Grade Level Reading Score. Bard AI had the highest average PEMAT understandability score of 0.890 in its cumulative responses for heart attacks, arrhythmias, and heart failures. Among the chatbots, there is no statistically significant difference in the PEMAT actionability scores. The results of the DISCERN score show that Perplexity.AI had the highest average score of 49.53. Bard AI had the lowest average Flesch-Kincaid reading score of 7.56. This paper provides information on the reliability of chatbots in providing scientific information and suggests that Bard AI might be the more user-friendly AI as it provides low readability scores and high PEMAT understandability scores. The limitations of this study are that the Google Trends time period included the COVID-19 pandemic which may have skewed the search queries. Additionally, only two individuals scored the data, possibly affecting the variability of scores. There are additional research inquiries in the evolving field of AI and it will be interesting to evaluate how patients and physicians can utilize and benefit from AI chatbots.