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Artificial Intelligence in Cardiac Rehabilitation: Assessing ChatGPT's Knowledge and Clinical Scenario Responses

Kardiyak Rehabilitasyonda Yapay Zeka: ChatGPT'nin Bilgi Düzeyinin ve Klinik Senaryo Yanıtlarının Değerlendirilmesi

LETTER TO THE EDITOR
EDİTÖRE MEKTUP

To the Editor,

I read the article by Geneş et al.[1] with great interest, as it presents a well-organized and insightful analysis of a subject that is becoming increasingly significant in the field. In this context, I would like to present a few complementary remarks that may deepen the appreciation of the study's relevance and applicability.

Artificial intelligence (AI) has been increasingly employed to advance various domains of patient care, including the management of electronic health records, the development of personalized treatment strategies and diagnostic imaging interpretation.[2] If proven to be both reliable and intelligible, such tools have the potential to function as meaningful adjuncts to clinical practice, enhancing the quality of clinical decision-making, while concurrently promoting patient adherence and engagement within the framework of cardiovascular rehabilitation (CR).[3] Several studies have evaluated the responses of ChatGPT to common patient and clinician questions related to prevalent cardiovascular conditions, including heart failure, coronary artery disease, hypertension, hyperlipidemia and atrial fibrillation.[4-8] It has been observed that ChatGPT-4o's responses to general and clinical scenario-based questions related to CR are largely consistent with current clinical guidelines.[1] Although a previous study reported that users found tools such as Copilot or Gemini to be more user-friendly than ChatGPT when seeking health-related information, it is important to note that this comparison was based on an earlier version, specifically ChatGPT-3.5.[9] Given the considerable improvements in more recent versions, such as GPT-4 and GPT-4o, notably in clinical reasoning, contextual accuracy and guideline adherence, the findings of that study may not be generalizable to current AI capabilities. Its explanations on core topics such as multidisciplinary team approaches, risk stratification and principles of exercise prescription, are user-friendly and easy to understand. However, there are limitations to its current capabilities. For instance, ChatGPT-4o's responses regarding high-intensity interval training and resistance exercises for elderly or frail individuals lack depth. Additionally, the model shows gaps in more complex areas, such as pharmacological therapies and metabolic disorders, limiting its ability to provide comprehensive clinical evaluations. Moreover, there is insufficient explanation regarding technical parameters used to determine exercise intensity (e.g., %HRR, METs, VO_2peak and watt values), which highlights a gap between theoretical knowledge and practical application. Despite these limitations, ChatGPT-4o operates without accessing personal data and emphasizes the importance of consulting professional healthcare providers, demonstrating its ethical responsibility.

This study conducted an evaluation based on a limited pool of scenarios and questions, which restricts the generalizability of its findings. Furthermore, the model's impact on patient outcomes, clinician workload or patient satisfaction was not assessed. More comprehensive regulations are needed in areas such as algorithm transparency, data security, ethical standards and cultural adaptability. Additionally, it is crucial that the data used to train these algorithms be representative and free from bias in order to promote equity in healthcare delivery. In conclusion, the findings of the present study suggest that AI-based systems, such as ChatGPT-4o, hold promise as supplementary tools in complex clinical domains, including cardiac rehabilitation, by offering guideline-consistent information and supporting multidisciplinary decision-making processes.

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