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EDITORIAL

The role of artificial intelligence in nutritional assessment in clinical practice

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Nutrition has become an integral part of clinical practice, influencing everything from immune function, disease prevention, and treatment. To achieve a good nutrition practice tailored to every patient requires a proper nutritional assessment, which may be challenging. Moreover, there is no one-size-fits-all approach to nutrition as each patient's needs are influenced by factors such as age, gender, genetics, lifestyle, and comorbid conditions. The challenges may be elevated in assessing elderly patients.[1]

The traditional methods of evaluating nutritional status typically involve a combination of clinical assessments, laboratory tests, and patient history, such as dietary recalls and food diaries. These can be time consuming, subjective, and may be inaccurate as misreport and misinterpretation prone to happen.[2]

Enters the artificial intelligence or AI. The acceleration of technologies has developed into making AI as tools to many aspects in life, including clinical practice. AI, particularly machine learning (ML) and deep learning algorithms, is poised to address many of the challenges associated with traditional nutritional assessments. One of the most significant advantages of AI is its ability to analyze and interpret large volumes of data quickly and accurately.

Through AI, it is possible for patients to track and assess their own nutritional health outside of clinical settings. Furthermore patients can use apps to weight loss programs by utilizing camera to capture digital images in dietary assessment to help counting the amount of calorie intakes.[3] For clinicians, AI from patient's apps and wearable devices can help to assess dietary patterns instead of relying on dietary recalls alone, tracking patient's blood sugar levels, and many more.[3,4]

However, as promising as its potential might be, AI nutritional diagnostic does not come without obstacles. Several concerns may include the quality and accuracy of the data being used to train AI algorithms which, if it's poor, can lead to false diagnosis. This can lead to potentially compromising patient care.

Additionally, the use of AI raises ethical questions about data privacy and security, as AI systems process sensitive health information. This issue may threaten patient's data confidentiality.[5] Nevertheless, while challenges remain, the potential benefits of AI in nutrition therapy are undeniable. As technology continues to evolve, AI will undoubtedly play an increasingly critical role in shaping the future of nutrition diagnostics and healthcare at large.

Conflict of interest

The authors declare that there is no conflict of interest related to the study.

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