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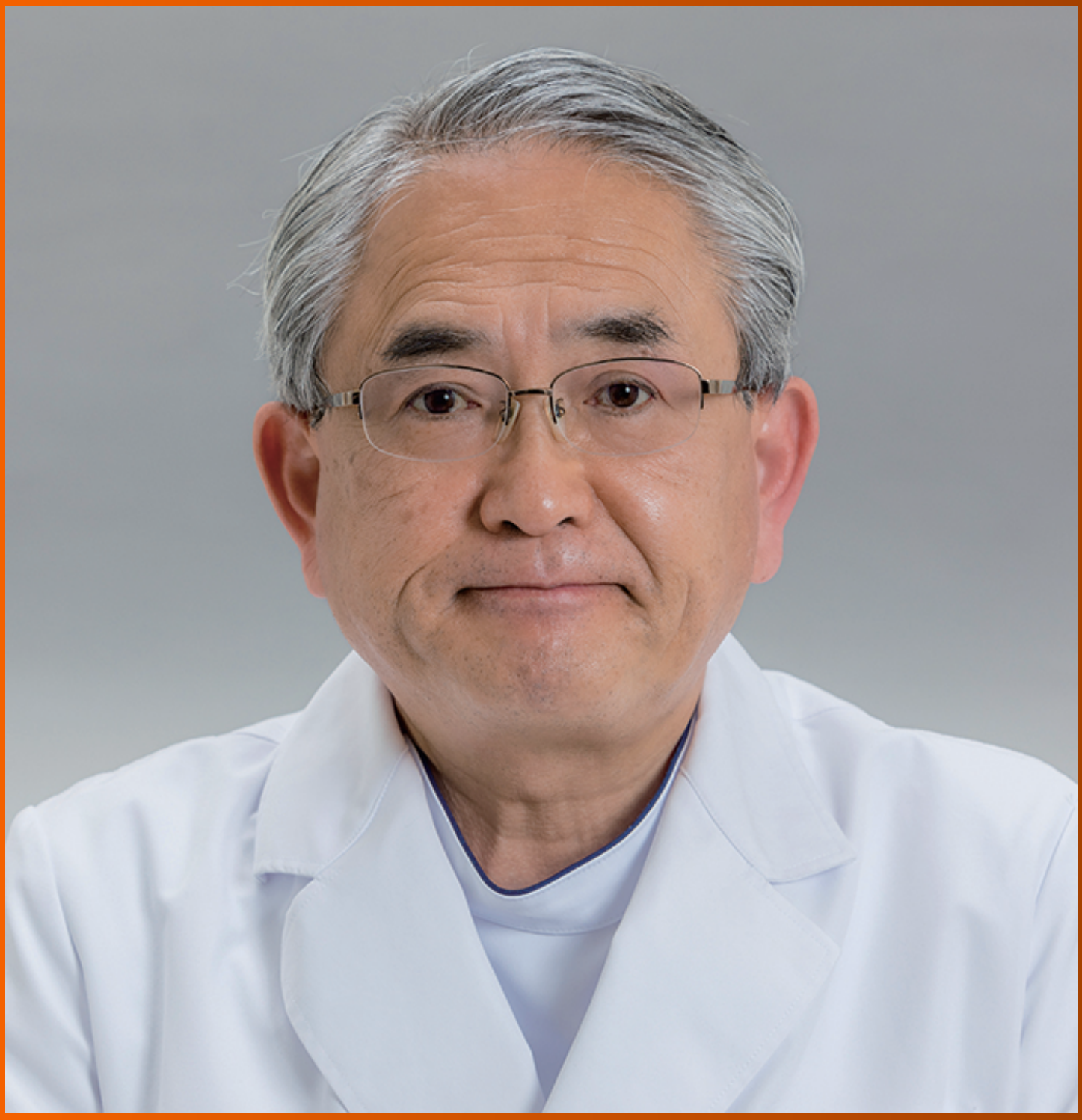

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Editorial Board Member of *World Journal of Gastroenterology*, Kentaro Yoshioka, MD, PhD, Director, Center for Liver Diseases, Meijo Hospital, Nagoya 460-0001, Aichi, Japan. kyoshiok8@gmail.com

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LETTER TO THE EDITOR

# Scale offers the possibility of identifying adherence to lifestyle interventions in patients with non-alcoholic fatty liver disease

Cen-Qin Liu, Bing Hu

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## Abstract

Nonalcoholic fatty liver disease (NAFLD) is the most common chronic liver disorder, and dietary and lifestyle interventions remain the mainstays of NAFLD therapy. Zeng *et al* established a prediction system to evaluate adherence to lifestyle interventions in patients with NAFLD and choose optimal management. Here, we discuss the application scenarios of the scale and the areas warranting further attention, aiming to provide a possible reference for clinical recommendations.

**Key Words:** Nonalcoholic fatty liver disease; Dietary and lifestyle interventions; Scale; Adherence; Exercise



**Core Tip:** Nonalcoholic fatty liver disease is the most common chronic liver disorder and the leading cause of cirrhosis and hepatocellular carcinoma. In this editorial, we aim to highlight the importance of a scale that can evaluate compliance with lifestyle interventions and guide the choice of targeted therapy. However, the universal applicability of the scale and the corresponding personalized treatment need to be carefully considered based on patients' characteristics and doctors' expertise.

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## TO THE EDITOR

Nonalcoholic fatty liver disease (NAFLD), the most common chronic liver disorder, is a leading cause of cirrhosis and hepatocellular carcinoma[1]. Dietary and lifestyle interventions, including exercise and diet modification, remain the current mainstays of NAFLD therapy[2,3]. However, according to a report on the Asian population with NAFLD, unhealthy lifestyles were common among these individuals, and only 29.7% of patients met the physical activity guidelines[4]. A healthy diet and exercise seemed difficult to sustain. In addition to long-term follow-up observation for NAFLD patients, how to quickly and accurately predict long-term compliance with dietary and lifestyle intervention therapy in advance is still a challenge. Therefore, providing a tool to identify such patients may be beneficial for targeted treatment. The Exercise and Diet Adherence Scale (EDAS), a prediction system, was recently designed and evaluated by Ming-Hui Zeng *et al*[5] to measure adherence to lifestyle interventions in patients with NAFLD, which could be instructive for personal clinical interventions.

Fifty patients with NAFLD and 66 individuals who underwent six-month interventions completed the 33-item EDAS, which has a maximum total score of 165 points. Scores ≥ 116 with a sensitivity of 100.0%, 97-115, and < 97 points with a sensitivity of 89.5% were indicative of good, average, and poor adherence to lifestyle interventions, respectively, and the validity was subsequently confirmed in 84 verification subjects. However, as Zeng *et al*[5] rightly noted, NAFLD is a long-term disease, and short-term assessments of the actual effects of lifestyle interventions may be inadequate. The results of the verification also suggested that patients with better adherence could improve their weight, abdominal circumference, and so on, but this difference decreased over longer follow-up periods. These results repeatedly demonstrated that the weight loss achieved was greatest at the 6-month follow-up, and thereafter, weight regain occurred[6]. Significantly, even if there was weight regain after six months of dietary intervention, the benefits of improvements in liver fat and insulin resistance were maintained in a study with 2 years of follow-up[6]. Overall, the scale and related study results are encouraging for the use of a standardized scale as an auxiliary tool in the implementation of lifestyle interventions in NAFLD patients. According to a previous study, NAFLD patients may have little readiness and motivation for lifestyle changes, particularly with regard to physical activity[7]. Physicians' advice has positive effects on patients' motivation to adopt a healthier lifestyle, and active support is important[6]. However, diet and exercise interventions are not suitable for all NAFLD patients who have other physical or mental disorders. Therefore, the EDAS offers the possibility of identifying such patients and developing individualized treatment, and it has greater relevance for health care professionals involved in NAFLD management.

However, several points need to be carefully considered regarding the widespread use of this scale. Although the EDAS scoring system has been explained, there is a lack of clarity regarding the specific items included in the scale and their selection or modification process. In addition, considering that the cutoff scores for categorizing adherence levels were not clearly explained and that there were differences in lifestyle habits among NAFLD patients in different age groups and from different regions, whether this scale is universally applicable warrants confirmation. In addition, although the results showed the excellent sensitivity of the scale, the specificity value may be worrying, especially for predicting poor performance in patients (44%). As the authors suggested, patients with a lower score should be considered for early addition of hepatoprotective drugs. However, a specificity of 44% might mean that more than half of patients require unnecessary drug medications, which may raise concerns about the widespread use of liver-protecting drugs.

## CONCLUSION

In summary, Zeng *et al*[5] provided us with a clinically selected scale to evaluate compliance with lifestyle interventions in patients with NAFLD, which is instructive for personalized clinical treatment. However, NAFLD has a complex pathogenesis and lacks approved therapies[8]; thus, whether the most appropriate approach is exercise therapy alone or only drug therapy for patients with good or poor adherence needs to be further identified. The use of the scale is helpful, but the corresponding personalized treatment needs to be carefully considered based on patients' characteristics and doctors' expertise.

## FOOTNOTES

**Author contributions:** Liu CQ and Hu B co-authored and revised the manuscript; and both authors have read and approved the final manuscript.

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