Evaluation of Intervention Effects of Different Exercise Modes on Non-alcoholic Fatty Liver Disease

Zhiping Zhen1, Chao Luo1, Liangyi Hu1, Hanran Li1, Yuhuan Cao1, Qixian Chen1, Qingjia Song1, Dan Xu1, Yiqing Lan1, Chenlin Zhao1. 1Beijing normal university, beijing, China. 2China University of Mining and Technology, beijing, China.

Email: zpzxt@bnu.edu.cn

PURPOSE: Based on the analysis of more than 1000 documents in the past 5 years and visiting physical activity experts, coaches and athletes, this paper discusses aerobic exercise (AE), resistance exercise (RE), and high-intensity interval training (HIIT) in non-alcoholic fatty liver disease (NAFLD). Discuss The main differences of intervention methods, intervention time, and intervention effects among the NAFLD people. To explore the targeting and dose-response relationship of different exercise models intervention in NAFLD.

METHODS: (1)Through searching in Pubmed,Web of science and other databases, articles were selected for analysis according to the corresponding inclusion criteria and exclusion criteria. (2)Expert survey. (3)Interview method.

RESULTS: (1) AE, RE and HIIT can reduce hepatic steatosis and improve liver histology in NAFLD people, but their intervention effects are different. AE stands out in reduce hepatic fat, decreases insulin resistance (IR) and increases muscle strength; HIIT has a significant effect in reducing hepatic fat and enhancing cardiovascular fitness. (2) the frequency, duration, and intervention period of AE and RE are similar; achieve the same or better intervention effect, HIIT only requires the 1/3 exercise time of the previous two. (3) People of different age, gender, physical fitness and disease degree have different choices in sports mode. Scientific monitoring and medical supervision are necessary conditions for improving the relationship between the dose and effect of exercise.

CONCLUSIONS: RE may be more effective than AE in patients with poor cardiovascular fitness, sarcopenia, and NAFLD who are unable to tolerate or participate in AE; HIIT has certain advantages in the time-effect and dose-effect due to less exercise time and smaller amount of exercise, This is easy for the NAFLD people to accept, and it will facilitate long-term adherence in the future.