Mechanisms underpinning the effect of exercise on the non-alcoholic fatty liver disease: review.

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Abstract

Non-alcoholic Fatty Liver Disease (NAFLD) - whose terminology was recently replaced by metabolic liver disease (MAFLD) - is an accumulation of triglycerides in the liver of >5 % of its weight. Epidemiological studies indicated an association between NAFLD and reduced physical activity. In addition, exercise has been shown to improve NAFLD independently of weight loss. In this paper, we aim to systematically review molecular changes in sedentary experimental NAFLD models vs. those subjected to exercise. We utilized the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) checklist and standard review techniques. Studies were considered for inclusion if they addressed the primary question: the mechanisms by which exercise influenced NAFLD. This review summarized experimental evidence of improvements in NAFLD with exercise in the absence of weight loss. The pathways involved appeared to have AMPK as a common denominator. See also the graphical abstract(Fig. 1).