

The relationship between ultrasound findings of fatty liver and physical activity in patients referred to ultrasound clinic of Imam Khomeini Hospital and Kowsar Clinic

Abstract

Background: Non-alcoholic fatty liver disease (NAFLD) represents a range of clinical and pathological conditions that in the absence of alcohol consumption from simple steatosis to steatohepatitis (NASH), fibrosis, cirrhosis and finally can lead to hepatocellular carcinoma. Non-alcoholic fatty liver disease is currently recognized as the most common chronic liver disease worldwide in adults and children. Based on the available information, the treatment is based on weight loss, physical activity, elimination of drugs and possible toxins, as well as control of diabetes and blood lipids. There is currently no definitive cure for fatty liver disease, but the first priority in prevention and treatment is a lifestyle intervention aimed at losing weight and improving BMI through diet and exercise.

Aim: Determining the relationship between sonographic findings of fatty liver and physical activity

Methods and material: The sample size was divided into two groups of 100 people, one group of patients with fatty liver and the second group of patients with non-fatty liver based on sonographic findings. Demographic questionnaire containing information on age, sex, etc. was filled by them. The IPAQ International Physical Activity Questionnaire was completed and finally analyzed by SPSS 22 statistical analysis software during Pearson correlation test. Finally, the results were presented in the form of tables.

Results: The mean age of the subjects was 49.65 ± 17.2 years. 177 people (88.5%) lived in cities and 23 people (11.5%) lived in rural areas. 48 people (24%) were illiterate, 101 people (50.5%) had less than a diploma and 51 people (25.5%) had a high school diploma. 132 (66%) had no history of smoking and 68 (34%) were smokers. The rate of people with low physical activity in the group of patients was 45%, which was 18% in the group of non-patients. The two groups had significant differences in terms of physical activity and the amount of physical activity in the non-affected group was higher than the affected group ($P < 0.05$). None of the people who were high physically active had Grade 3 fatty liver, according to the ultrasound findings. 87.5% of people who were reported grade 3 fatty liver had little physical activity. In terms of comparing the results of ultrasound and the amount of physical activity, a significant relationship was found between the two, which indicates an increase in the progression of fatty liver disease (Grading) based on sonographic findings with a decrease in physical activity ($P < 0.05$).

Conclusion: The rate of physical activity in people with fatty liver was lower than non-patients. With increasing physical activity in individuals, the severity of fatty liver disease is significantly lower based on ultrasound findings.

Keywords: Fatty liver, Physical activity, Ultrasound, IPAQ