

S1 steatosis was found in 14 subjects (20.90%), S2 in 23 (34.32%), and S3 in 30 (44.78%). Of the alcohol damage group, 12 (38.70%) had S1, 5 (19.35%) S2 and 13 (41.95%) S3. 100% of donors with combined damage present S3 steatosis. Advanced fibrosis was found in 3 (4.47%) donors with metabolic damage, 1 (3.22%) with alcohol damage, and 2 (6.45%) with combined damage.

**Discussion:** One out of two healthy subjects had fatty liver disease. Non-alcoholic fatty liver disease was the most common, while alcohol and combined damage were equally prevalent. These subjects are a sample of the Mexican population that could represent the behavior of the population of our country.

**Conclusions:** Fatty liver disease was found in all three groups but with predominance in the metabolic damage group. Undiagnosed advanced fibrosis was found in a small percentage of the apparently healthy population.

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### Changes in physical activity and its impact on MAFLD during the COVID-19 pandemic

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**Introduction and Objectives:** Multiple factors, such as diet and physical activity, are involved in the pathogenesis of fatty liver associated with metabolic dysfunction (MAFLD). After confinement by COVID-19, interest has arisen to study its effect on the population. This study aimed to describe the impact of changes in physical activity during the COVID-19 pandemic on the progression of MAFLD.

**Materials and Methods:** Observational, analytical, retrospective, longitudinal and comparative study in patients with MAFLD from the Instituto de Investigaciones Médico Biológicas of the Universidad Veracruzana. The information was obtained from a database from which values of steatosis, fibrosis and degree of physical activity measured by IPAQ were obtained. Student's t-test for related samples was used for numerical variables.

**Results:** Thirty-four patients were studied, of which 15 were excluded due to incomplete records. Nineteen patients were included; the mean age was 60.42±8.1 years, female sex was predominant (57.9%). Initial somatometric data are described in Table 1. A significant increase in physical activity in minutes per week was observed (p=0.037), as well as the reduction of intrahepatic fat after the pandemic (Fig.1).

**Conclusions:** The results demonstrate that during the COVID-19 pandemic, our population increased physical activity, which resulted in an improvement in hepatic steatosis significantly.

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Table 1. Baseline and two-years after pandemic characteristics in MAFLD patients

	2019	2021
Weight (kg)	80.3632±13	81.2921±14.8
Height (m)	1.5853±0.1	1.5853±0.1
BMI	32.093±5.1	32.337±5.7
BMI scale		
Normal	1 (5.3)	1 (5.3)
Overweight	6 (31.6)	7 (36.8)
Obesity	12 (63.1)	11 (57.9)
Body fat (%)	43.19±6.9	36.2±7.2**
Lean muscle mass (%)	56.93±7.2	31.1±8.7
kPa	8.079±4.0	7.016±5.4
CAP	314.58±32.1**	294.79±39.1**
Physical activity (min per week)	130±26.5**	349.4±99.5**

\*\* p=0.05

Min per week: Minutes per week

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### Association between hypothyroidism and non-alcoholic fatty liver disease

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**Introduction and Objectives:** Association between hypothyroidism and non-alcoholic fatty liver disease (NAFLD) is controversial. The aim of the study was to evaluate the association between levels of thyroid stimulating hormone (TSH) and NAFLD.

**Material and Methods:** This is a cross-sectional study of patients who attended at check-up unit. NAFLD was evaluated by the controlled attenuation parameter (CAP). Also, patients were classified by metabolic dysfunction-associated fatty liver disease (MAFLD) criteria. TSH levels were divided into three different cut-off points (>4.5, >3.1 y >2.5). Associations between TSH, NAFLD and MAFLD were evaluated by univariate and multivariate logistic regression analysis.

**Results:** Three thousand seven hundred forty-one patients were included, 59% (n=2211) were male, mean of age and body mass index were 48 [43-55] years and 25.9 [23.6-28.6] kg/m<sup>2</sup>. 44.5% (n=1664) of patients were diagnosed with NAFLD meanwhile, 1% (n=37) presented significant liver fibrosis. In multivariate analysis, TSH levels did not show an independent association with the presence of NAFLD or MAFLD (Table). According to different cut-off points, patients with high levels of TSH presented similar risks for NAFLD to the general population (presence of metabolic syndrome and high-fat percentage).

**Discussion:** There is evidence of an association between hypothyroidism and NAFLD. However, liver steatosis is diagnosed by abdominal ultrasound. This is the first study that evaluates steatosis by CAP.

**Conclusion:** TSH levels are not associated with NAFLD or MAFLD; patients with high TSH levels have the same risk for NAFLD as the general population.