Frequent Cannabis Users Have Reduced Odds for Non Alcoholic Fatty Liver Disease

Adeyinka Adejumbo
University of Massachusetts Medical School

Let us know how access to this document benefits you.
Follow this and additional works at: https://escholarship.umassmed.edu/cts_retreat

Part of the Digestive System Diseases Commons, Gastroenterology Commons, and the Translational Medical Research Commons

Repository Citation

Creative Commons License
This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 License. This material is brought to you by eScholarship@UMassChan. It has been accepted for inclusion in UMass Center for Clinical and Translational Science Research Retreat by an authorized administrator of eScholarship@UMassChan. For more information, please contact Lisa.Palmer@umassmed.edu.
FREQUENT CANNABIS USERS HAVE REDUCED ODDS FOR NON ALCOHOLIC FATTY LIVER DISEASE

Adeyinka C. Adejumo, MD, MS1,2, Nnaemeka Onyeakusi, MD, MPH3, Samson Alliu, MD, MPH4, Ogooluwa Ojelabi, MS1
1University of Massachusetts Medical School; 2North Shore Medical Center Salem Hospital, Salem, MA; 3Bronx-Lebanon Hospital Center, Bronx NY; 4Maimonides Medical Center, Brooklyn NY

Background: Cannabis is the world's most widely used illicit drug. Though marijuana use has been revealed to impact the prevalence of diabetes, hypertension, and obesity - established risk factors for Non-Alcoholic Fatty Liver (NAFLD), it's relationship with NAFLD remains unknown.

Aim: We sought to investigate the association between cannabis use and NAFLD.

Methods: From the National Health and Nutrition Examination Survey (NHANES III, 1988–1994) survey data, we retrieved data from individuals aged 20 to 60 years who had an abdominal ultrasound for evaluation for hepatic steatosis (n=10,682). We then identified three cannabis use groups: never used before (never users, 62.22%), no use in the past month (infrequent users, 29.76%), and multiple uses in the past month (frequent users, 7.91%). After eliminating gender-specific severe alcohol consumption to recognize individuals with NAFLD (18.12%), we controlled for age, gender, race, BMI, DM to estimate the adjusted odds ratio (AOR) for having NAFLD on the frequency of cannabis use (SAS 9.4).

Results: When compared to never users of marijuana, unlike infrequent users who had no difference in the odds of NAFLD, frequent cannabis users had a 52% reduced odds for the disease (AOR: 0.95[0.76-1.18] & 0.48[0.35-0.66]). Frequent cannabis users also had a 52% lower odds of NAFLD when compared to infrequent users (AOR: 0.51[0.34-0.75]). Compared to Non-Hispanic Whites, Non-Hispanic Blacks and Hispanics respectively had 35% reduced and 58% increased odds of NAFLD (0.66[0.52-0.83] & 1.58[1.26-1.99]). Females had a 31% lower odds for NAFLD (0.69[0.58-0.82]). Every percentage unit rise in glycated hemoglobin was associated with a 27% increased odds for NAFLD (1.27[1.17-1.38]).

Conclusion: Our findings suggest that frequent cannabis use is associated with a lower odds of NAFLD. More powerful longitudinal studies are required to confirm these novel observations and to provide deeper insight into the modulation of NAFLD by cannabis use.

Contact:
Adeyinka C. Adejumo, MD, MS
University of Massachusetts Medical School
adeyinka.adejumo@umassmed.edu