

Clinical pathology selected abstracts

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Link between MIND diet, mental health, and cardio-metabolic risk factors in obese people

May 2023—Several studies have evaluated the brain protective role of the Mediterranean-DASH (Dietary Approaches to Stop Hypertension) Intervention for Neurodegenerative Delay (MIND) diet. The studies have shown that the MIND diet can slow cognitive decline, reduce rates of cognitive impairment, and reduce Alzheimer's and Parkinson's disease. Because obesity is a global epidemic, there is an interest in determining if the MIND diet may also have a beneficial effect on cardiovascular disease mortality, central or general obesity, metabolic syndrome and its components, and cardiac remodeling. The authors conducted a cross-sectional study to examine the relationship between the MIND diet and other metabolic risk factors, including lipids, glycemic indicators, and mental health, in obese people. The study included 339 obese people (body mass index of 30 kg/m² or more) who were between 20 and 50 years old and lived in Tabriz or Tehran, Iran. The investigators used a semi-quantitative food frequency questionnaire that focused on 168 food items and study participants' one-year-long food diaries to assess the participants' dietary intake. They used the data they collected to develop a MIND diet score. The MIND diet involves a high intake of the brain-healthy foods green leafy vegetables, other vegetables, berries, nuts, whole grains, fish, beans, poultry, olive oil, and wine. The diet is known for its antioxidant and anti-inflammatory properties and promoting a lower intake of unhealthy foods, such as red meat and sweets. Of note, wine consumption was not considered in calculating the final MIND diet score for the study because wine consumption is prohibited in Iran. Metabolic syndrome was defined in accordance with National Cholesterol Education Program Adult Treatment Panel III guidelines. It is characterized by central obesity, abnormal serum lipids, glucose intolerance, insulin resistance, and hypertension. The study assessed various biochemical markers, in addition to blood pressure and body composition. The authors found that higher tertiles of the MIND diet score were associated with significantly higher energy intake of macronutrients and brain-healthy foods. When evaluating brain-unhealthy foods, they noted that the intake of pastries and other sweets were significantly lower in the highest versus lowest MIND tertiles. The authors also found lower odds of stress ($P<.05$) and higher insulin sensitivity ($P<.05$) in the highest versus lowest MIND diet tertiles. There were no significant changes in other biochemical parameters. The authors concluded that lower stress levels and higher insulin sensitivity independent of such confounders as age, body mass index, gender, and physical activity were associated with the highest tertile of the MIND diet score. The study suggests that additional longitudinal analysis is needed to further elucidate causal associations between the MIND diet and cardio-metabolic risk factors among obese people.

Ardekani AM, Vahdat S, Hojati A, et al. Evaluating the association between the Mediterranean-DASH intervention for neurodegenerative delay (MIND) diet, mental health, and cardio-metabolic risk factors among individuals with obesity. *BMC Endocr Disord.* 2023;23:29. <https://doi.org/10.1186/s12902-023-01284-8>

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CDC recommendations on screening and testing for hepatitis B virus

Hepatitis B virus continues to be a significant risk factor for liver cancer and cirrhosis. Treatment for hepatitis B virus (HBV) is antiviral therapy, monitoring, and liver cancer surveillance. While treatment is not curative, vaccines to prevent HBV are available. In support of the World Health Organization's goal of eliminating viral hepatitis, the U.S. Department of Health and Human Services published the "Viral Hepatitis National Strategic Plan for the United States: A Roadmap to Elimination (2021–2025)," which focuses on increasing the proportion of people who are aware of their HBV infection from 32 percent (2013–2016) to 90 percent by 2030. To support this goal, Connors, et al, as members of the CDC guidelines work group, developed the report "Screening and Testing for Hepatitis B

Virus Infection: CDC Recommendations—United States, 2023,” discussed herein. The report updates and expands the 2008 CDC recommendations for risk-based screening and the management of people who have chronic HBV infection. The work group followed CDC guideline development and reporting standards to formulate research questions necessary to assess the proposed updates; conduct systematic reviews; analyze the quality of the evidence; and assess existing systematic reviews, meta-analyses, and cost-effectiveness studies. CDC librarians, with direction from subject matter experts, provided assistance by conducting three systematic literature reviews—to obtain recommendations relative to expanding screening to all adults, periodically testing people with hepatitis C virus for HBV, and testing people with a history of incarceration for HBV infection. The CDC’s viral hepatitis steering committee considered results of the systematic reviews in conjunction with such factors as the practicality of implementing guidelines, public health benefits, subject matter expertise, and reviewer and public feedback. The work group’s intent was to develop a resource for advising health care professionals, public health officials, and organizations that support awareness and prevention of HBV infection. The newer recommendations include HBV screening for adults 18 years and older—testing for hepatitis B surface antigen, antibody to hepatitis B surface antigen, and total antibody to hepatitis B core antigen—at least once during their lifetime. The report also expands HBV testing to specific populations based on activities, exposures, and conditions that predispose these populations to increased risk for HBV infection. Among this group are people who are incarcerated or were incarcerated in a jail, prison, or detention center; people with a history of sexually transmitted infections or multiple sex partners; and people with a history of hepatitis C virus infection. The work group also recommended providing increased access to HBV testing to anyone who requests it, regardless of disclosure of risk. The group noted that this is important because people could be reluctant to disclose their reasons for being at risk. The authors concluded that these new recommendations provide scientific information that will influence public policy and private sector decisions aimed at limiting and preventing HBV infection. However, more work may need to be done to identify additional at-risk groups.

Conners EE, Panagiotakopoulos L, Hofmeister MG, et al. Screening and testing for hepatitis B virus infection: CDC recommendations—United States, 2023. *MMWR Recomm Rep*. 2023;72(1):1–25.

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