Journal of Nutrition and Food Security
Shahid Sadoughi University of Medical Sciences
School of Public Health
Department of Nutrition
Nutrition & Food Security Research Center

eISSN: 2476-7425 pISSN: 2476-7417 JNFS 2021; 6(4): 286-288 Website: jnfs.ssu.ac.ir

Is the Alternative Healthy Eating Index (AHEI) Associated with Depression and Anxiety?

Ameneh Marzban; MSc [1] & Abdolrazagh Marzban; PhD *[2]

[1] *Department of Human Ecology, School of Public Health, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.*
[2] *Razi Herbal Medicines Research Center, Lorestan University of Medical Sciences, Khorramabad, Iran.*

ARTICLE INFO

EDITORIAL ARTICLE

Article history:
Received: 1 Jun 2021
Revised:19 Jun 2021
Accepted: 19 Jun 2021

Corresponding author
marzban86@gmail.com
Razi Herbal Medicines Research Center, Lorestan University of Medical Sciences, Khorramabad, Iran.

Postal code: 7486144135
Tel: +98 916 4011432

Anxiety and depression are among the mental disorders that are highly prevalent in advanced and developing societies. Statistics show that one in five people, especially women, suffer from these disorders at some point in their lives. In Iran, the prevalence of anxiety is 15.6% and depression is 12.7% (Khademian *et al.*, 2021, Mohammadi *et al.*, 2019).

Making some dietary changes over the past fifty years has played an important role in increasing mental illness. The method currently used to produce food has upset the balance of important nutrients consumed. People tend to eat foods that contain more sugar and fat and avoid eating fresh foods, leading to depression and memory problems (Firth *et al.*, 2020, Mörkl *et al.*, 2020).

Paying attention to mental health problems with dietary changes sometimes works better than taking medication or counseling (Cherak *et al.*, 2020). Previous studies have examined the association between risk factors, such as unhealthy diet, diet quality, and physical inactivity with common mental disorders (Saneei P, 2017). Nutrition causes changes in brain function, so that nutritional poverty is one of the most important causes of this disease (Owen and Corfe, 2017, Rozga *et al.*, 2020). Observational studies have shown that consuming nutrients, such as omega-3 fatty acids, and food groups, such as fruits, vegetables, whole grains, and fish reduces the risk of depression (Rahmani *et al.*, 2018). It is recommended to examine the relationship between diet and disease in the form of dietary patterns. Prospective studies have suggested that following a healthy eating pattern in the form of the healthy eating index (HEI) is associated with a reduced risk of depressive symptoms in women (Gibson-Smith *et al.*, 2018). This protective role is related to the components of HEI, including vegetables, fruits, and the ratio of polyunsaturated fatty acids to saturated fatty acids. It was also reported that in the US population, people with high-quality diets,

This paper should be cited as: Marzban A, Marzban A. ***Is the Alternative Healthy Eating Index (AHEI) Associated with Depression and Anxiety?*** *Journal of Nutrition and Food Security (JNFS)*, 2021; 6(4): 286-288.

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[DOR: 20.1001.1.24767417.2021.6.4.12.0]
[DOI: 10.18502/jnfs.v6i4.7609]

as determined by the HEI, had fewer depressive symptoms. Similar findings have shown that a higher healthy eating index is associated with a lower chance of developing depression in adults. The results of a meta-analysis study also showed that healthy eating patterns, identified by factor analysis, were associated with a reduced risk of depression (Gündüz *et al.*, 2019, Wu *et al.*, 2020).

However, previous studies have shown the protective effect of a healthy eating pattern against mental disorders in Western societies, There are few studies in this field in the Middle East with a different dietary pattern from Western societies (Begdache *et al.*, 2021, Ghazizadeh *et al.*, 2020). These differences include high consumption of refined carbohydrates, high consumption of saturated and trans fatty acids, low consumption of fruits and vegetables, and no alcohol consumption. Also, due to the stressful lifestyle in the Middle East, the relationship between diet and disease among the people of this region may be different from Western societies (Hariri *et al.*, 2013).

Findings of the present study showed that following the alternative healthy eating index (AHEI) is associated with a reduction in the incidence of depression and anxiety. However, further studies are required in the future to confirm the findings of the present study. There is currently limited evidence linking mental health and food intake, so it is difficult to research and draw definitive conclusions. But in general, the recommendations given in the field of food are in line with the existing recommendations for maintaining health.

Authors' contributions

Both authors collected the data, wrote the draft of manuscript, read and approved the final version of manuscript.

Conflict of interest

There is not any conflict of interest.

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[DOI: 10.18502/jnfs.v6i4.7609]

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[DOR: 20.1001.1.24767417.2021.6.4.12.0]

[DOI: 10.18502/jnfs.v6i4.7609]