Association Between Dietary Inflammatory Index and Sleep Quality: A Systematic Review

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ABSTRACT

Introduction: Sleep quality is an important factor for individuals' health and well-being; suitable and restful sleep increases energy, concentration, and overall quality of life. Research has shown that diet has a significant impact on sleep quality. Diet plays an important role in regulating inflammation. The Dietary Inflammatory Index (DII) is related to the level of inflammation in the body, which is determined by various substances. The present review aimed to clarify the association between DII and sleep quality.

Search Strategy: The present systematic review was prepared according to the PRISMA protocol. A search was conducted on the Persian (SID and Magiran) and English (PubMed, Medline, Web of Science, Google Scholar, Scopus) databases from 2010 to October 27, 2023. After searching all databases, 383 articles were identified. After reviewing the titles and abstracts, 60 articles were selected for reviewing their full text. In the end, in terms of the inclusion criteria, 16 articles were included in this systematic review.

Results: A total of 16 studies met the inclusion criteria and were included in this systematic review. According to the studies, there were nine cross-sectional studies, in which seven showed a significant relationship between DII and sleep quality. It was observed that each unit increases DII score change, increases WASO, decreases sleep efficiency, and delays sleep and waking time. Also, the results showed that this relationship is vital in women, elders, and people with chronic diseases. Seven Case-control studies revealed that diets rich in anti-inflammatory foods have a potential protective effect on sleep quality. Moreover, these studies highlighted the role of inflammatory markers such as C-reactive protein and interleukin-6 (IL-6) in this regard.

Conclusion and Discussion: According to the findings, DII and sleep quality have a significant association, and several studies have proven the effect of DII on sleep quality. However, due to the differences in race, weather conditions, and the number of people studied, this issue cannot be definitively stated, and more studies are needed in this field.

Keywords: Diet, Inflammation, Sleep quality

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