Natural compounds in the treatment of nonalcoholic fatty liver disease: A review study

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Abstract:

Background and Purpose: Fatty liver disease (NAFLD) is a condition in which triglyceride accumulates in liver cells of a person without a history of alcohol consumption, and is considered one of the main causes of cryptogenic cirrhosis and chronic liver disease. Currently, there is no treatment other than lifestyle changes. In spite of the progress in synthetic drugs, antioxidant therapy and the use of herbal medicines can help improve steatosis and inflammation to a great extent due to their availability. Therefore, herbal medicines seem very attractive for the effective management of this disease. Due to the high prevalence of this disease, the present study has been designed to investigate and report non-alcoholic fatty liver treatments.

Materials and Methods: In this review study, English and Persian articles were searched with keywords such as liver, herbal medicines, non-alcoholic fatty liver, antioxidant with Boolean operators including AND and OR from January 2016 to the end of February 2021. Published articles were searched in the scientific databases including Cochrane, PubMed, Scopus, Science Direct, Embase and SID. Thirty-six articles were initially obtained. Nine articles were excluded due to the lack of relevance to the subject and results, and finally 27 articles were included in the study.

Results: Based on the results of this study, it was found that medicinal plants play a role in improving non-alcoholic fatty liver disease through several mechanisms such as increasing the metabolism of fats, increasing the synthesis of bile acids, and reducing oxidative stress and inflammation.

Conclusion: Plant polyphenols and antioxidants can be used as medicine to prevent liver steatosis due to their antioxidant properties, as well as therapeutic and protective effects. The results of the present study show that possessing multiple biochemical mechanisms, natural compounds have the ability to affect the pathogenesis of non-alcoholic fatty liver disease. Thus, conducting further studies is recommended.

Keywords: Liver, Chronic disease, Antioxidants, Medicinal plants

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