

Investigating the effect of Carica Papaya extract on accelerating the healing of diabetic ulcers

Azin Peyvandy (B.Sc.)¹, Alireza Sohrabi (B.Sc.)^{2,*}

1 Clinical Research Development Unit, Kosar Educational, Research and Therapeutic Hospital, Semnan University of Medical Sciences, Semnan, Iran

2 Clinical Research Development Unit of Akbar Hospital, Mashhad University of Medical Sciences Mashhad, Iran

Abstract

Background and Aim: Diabetes is known as one of the most important public health issues around the world, and the failure to repair ulcers caused by diabetes, often leads to limb amputation and imposing social and economic costs and there is a huge psychological impact on the society. The aim of this study is to investigate the effectiveness of Carica papaya extract in accelerating the healing of diabetic ulcers.

Methods: This review study was done in 2024 by searching reputable databases such as PubMed, Web of Science and Google Scholar search engine with the keywords "Diabetes", "Diabetic ulcer", "Carica papaya" and "Repair" with a time limit of four years. Also, the sources of the articles were checked to ensure the completeness of the search results. After removing duplicate titles with EndNote software20, the title and abstract of the articles were reviewed by the researchers, and the articles that met the inclusion criteria were included in the study.

Results: In this research, 17 articles were remained and, 6 articles were selected to review the full text. Review of Studies shows that Carica papaya extract has 3 important features through which it improves diabetic ulcers: 1- Antibacterial (destroying the phagocytic cells of bacteria on the wound by the protease enzymes present in it) 2- Inhibitory effect of diabetes (by inhibiting amylase and α -glucosidase amylase and α -glucosidase enzymes and also preventing oxidative stress which has a stimulating effect on glucose absorption in the area is a wound) 3- Repairing (decomposition of necrotic wound tissue due to the presence of digestive enzyme papain in the extract of this plant).

Conclusion: The use of Carica papaya extract is recommended because it provides ideal conditions in terms of time and treatment, as well as having restorative, anti-inflammatory properties, and the inhibitory effect of diabetes in the healing of diabetic ulcers. Also, the cultivation of this plant in the prone geographical areas of Iran is suggested for its widespread and cost-effective use in the health industry.

Keywords: Diabetes; Diabetic ulcer; Carica papaya; Repair