

Title: Gastroprotective Efficacy of North African Medicinal Plants: A Review on Their Therapeutic Potential for Peptic Ulcers

Author: Nezar Cherrada, Ahmed Elkhalfa Chemsas, Noura Gheraissa, Ibtissam Laib, Zakia Gueboudji, Mohamed EL-Shazly, Abdelmalek Zaater, Asma Abid, Sherouk Hussein Sweilam, Talha Bin Emran, Sadok Nani, Bilal Benamor, Djilani Ghemam Amara, Ayomide Victor Atoki, Mohammed Messaoudi

Abstract: Peptic ulcer disease remains a prevalent gastrointestinal disorder worldwide. Current treatments often have limitations, sparking interest in alternative therapies from medicinal plants. This review examines the gastroprotective potential of 54 North African medicinal plants against peptic ulcers. An extensive literature search was conducted, focusing on plants with preclinical and clinical evidence of anti-ulcer efficacy and documented use in North African traditional medicine. The review identified several promising plant species, such as licorice (*Glycyrrhiza glabra*), chamomile (*Matricaria chamomilla*), olive (*Olea europaea*), pomegranate (*Punica granatum*), Aloe vera, and black seed (*Nigella sativa*), along with their bioactive constituents, including flavonoids, tannins, and terpenoids. These compounds exhibit gastroprotective properties through multiple mechanisms, such as enhancing the gastric mucosal barrier, inhibiting acid secretion, displaying antioxidant and anti-inflammatory effects, promoting ulcer healing, and combating *Helicobacter pylori* infection. The evidence presented includes in vitro assays, animal models, and some clinical studies. While many of the 53 plants reviewed demonstrated significant anti-ulcer effects compared to standard drugs, further clinical research is needed to establish efficacy and safety in humans. The synergistic actions of phytochemical mixtures in medicinal plant extracts likely contribute to their therapeutic potential. This review highlights the role these North African medicinal plants may play in the prevention and treatment of peptic ulcers and identifies promising candidates for further research and development of evidence-based botanical therapies.

Keywords: Peptic ulcer disease, Gastro protective agents, North African medicinal plants, Traditional medicine, Flavonoids, Tannins, Terpenoids

DOI: <https://doi.org/10.1002/fsn3.4536>

<https://onlinelibrary.wiley.com/doi/full/10.1002/fsn3.4536>