

# Evaluating the Importance *Aloe vera* in the Treatment of Digestive and Periodontitis Diseases

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## DESCRIPTION

*Aloe vera* is derived from the genus *aloe*, a tropical plant. The scientific name for *Aloe vera* is *Aloe barbadensis miller*. Long (up to 20 inches long and 5 inches broad), triangular, fleshy leaves with spikes around the edges characterize the *aloe* plant. The fresh parenchymal gel from the leaf's core is transparent; this section is occasionally dried to make *Aloe vera* concentrate or diluted with water to make *aloe* juice products. The yellowish green pericyclic tubules that border the leaf (rind) generate the sticky latex liquid; this is the portion that yields laxative anthraquinones. *Aloe* has around 300 species, the majority of which are indigenous to South Africa, Madagascar, and Arabia. The quantities of active substances differ somewhat across species. *Aloe vera* is one of the oldest recognized therapeutic herbs for good skin. This plant has been mentioned in herbal treatments from the early first century AD.

*Aloe vera* extract (50%) improved the cell survival of dental pulp stem cells, making them effective for avulsed damaged teeth. Polysaccharides, namely acemannan, are responsible for this action through stimulating osteogenic-specific gene expressions, DNA synthesis, growth factors, and the JAK-STAT pathway. Furthermore, *Aloe vera* (225 mg/kg) demonstrated a radioprotective effect against salivary gland dysfunction in a rat model by increasing salivary flow rate. Periodontitis is a dangerous and frequent dental condition in which the gums become infected and inflamed, resulting in tissue and bone deterioration. Periodontitis begins with gingivitis, which is caused by tooth plaque. Significant clinical data suggests that *Aloe vera* mouthwash and gel can help prevent and cure gingivitis and periodontitis by lowering gingival index, plaque index, and probing depth and improving bone fill and regeneration. *Aloe vera* has been shown to be just as effective as other common therapies including chlorhexidine, alendronate, and chlorine dioxide.

Oral mucositis/stomatitis is an inflammatory and/or ulcerative disorder that develops as a severe effect of chemotherapy and

radiation therapies and impairs oncological patients' quality of life. *Aloe vera* mouthwash alleviated radiation-induced mucositis severity in patients with head and neck cancers similarly to the reference benzydamine mouthwash. *Aloe vera* mouthwash reduced the severity of radiation-induced mucositis in individuals with head and neck malignancies in the same way as benzydamine mouthwash did. Furthermore, *Aloe vera* mouthwash has been shown to be effective in treating stomatitis (mean intensity and discomfort) caused by radiation in individuals with acute myeloid leukaemia and acute lymphocytic leukaemia.

Mouth submucous fibrosis is a precancerous disorder characterized by aberrant collagen deposition in the oral cavity. This cancerous illness is mostly induced by eating areca nut and is most common in India and Southeast Asia. In another research on oral submucous fibrosis, the combination of *Aloe vera* gel and physiotherapy was more effective than the combination of antioxidant pills and physiotherapy in lowering burning sensation and enhancing tongue protrusion, mouth opening, and cheek flexibility.

Gastroesophageal reflux disease (GERD) is a common chronic digestive disorder in which stomach acids rise into the oesophagus. For 4 weeks, *Aloe vera* syrup (10 mL/day) reduced the frequency of gastroesophageal reflux disease symptoms such as heartburn, food regurgitation, dysphagia, flatulence, belching, nausea, and acid regurgitation without causing adverse effects.

Gastritis is an inflammation of the stomach's mucous membrane layer. In patients with acute radiation proctitis caused by pelvic irradiation, topical application of *Aloe vera* 3 percent ointment improved symptoms of diarrhoea and faecal urgency. Furthermore, as compared to a control group, *Aloe barbadensis* extract (AVH200®) reduced the intensity of gastrointestinal symptoms in individuals with irritable bowel syndrome, albeit not considerably. Furthermore, in a prospective double blind clinical experiment, *Aloe vera* lotion applied three times daily for six weeks decreased chronic anal fissure discomfort and bleeding after defecation and improved wound healing.

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