

## Aloe vera in dental diseases- A review

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### Abstract

Aloe vera is picking up fame for its numerous medical advantages. Recuperating is a mind boggling system principally happens by dying down irritation which should be possible by immunomodulatory properties of gel polysaccharides, particularly acetylated mannans from A. vera. It helps in improving conditions, for example, diabetes mellitus, joint inflammation, and presence of the skin, yet separated from these, it has an enormous job in dentistry and is useful in numerous oral conditions. Because of its antibacterial characteristics, it is viable in gum disease, periodontitis, and stomatitis. Direct use of Aloe vera gel on herpetic sores, aphthous ulcer has improved the condition. Aside from this, acemannan likewise increments basic phosphatase movement and furthermore help in bone reformation. In this article it is emphasized on the dental diseases.

**Keywords:** Aloe vera, Aphthous stomatitis, Oral submucous fibrosis, Metapex.

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### Introduction

The usage of regular things in the neutralizing activity and treatment of oral conditions has extended starting late and could be of preferred position to low money related level in urban and rural systems.<sup>1</sup> Among the distinctive starting at now available home developed administrators the most notable and by and by tolerating a lot of coherent thought is Aloe vera. The plant Aloe vera has a history returning to scriptural events. It is a suffering succulent xerophyte, which makes water-accumulating tissue in the leaves to get by in dry locales of low or whimsical precipitation. The plant has solidified dull green lance shaped leaves containing clear gel in a central cement crush. Favorable circumstances related with Aloe vera have been credited to the polysaccharides contained in the gel of the leaves<sup>2</sup> The Aloe plant is created in warm, tropical zones and can't bear bone chilling temperatures, for instance, during winters. In the United States, a large portion of the Aloe is developed in the Rio Grande Valley of South Texas, Florida and Southern California. Universally, Aloe can be found in Mexico, the Pacific Rim countries, India, South America, Central America, the Caribbean, Australia, and Africa.<sup>3</sup>

### Mechanism of action of aloe vera

it has antimicrobial impact is more articulated than fluid extract.<sup>4</sup> Both leaf and gel inhibitorily affect the development of Staphylococcus aureus. A. vera gel has antimicrobial movement against Gram-positive microorganisms, for example, Bacillus sphaericus, S. aureus, mycobacterium smegmatis, Enterococcus faecalis, Streptococcus pyogenes. Aside from these, aloe shows antimicrobial movement against Gram-negative microscopic organisms, for example, Pseudomonas aeruginosa, Escherichia coli, Klebsiella pneumoniae, and Salmonella typhimurium. Antifungal action has not been given a lot of consideration. Notwithstanding, A. vera gel readiness has an inhibitory activity on development of candida albicans.<sup>5</sup> Apart from this, it likewise inhibitorily affects trichophyton metagrophytes.<sup>6</sup> Antiviral impact is increasingly momentous, particularly action against human immunodeficient infection type 1. The antiviral impacts of acemannan against HIV-1 and other encompassed infections seem, by all accounts, to be identified with the adjustment of glycosylation of viral glycoproteins.<sup>7</sup> The antiviral property of A. vera is expected primarily due to anthraquinone aloin which

inactivates different encompassed infections, for example, herpes simplex, varicella zoster, and flu.

### Use in dental diseases

#### lichen planus

Choonhakarn<sup>8</sup> led a randomized controlled preliminary concentrate to check the adequacy of A. vera gel in the treatment of oral lichen planus (OLP). He reasoned that A. vera gel is measurably essentially more powerful than fake treatment in inciting clinical and symptomatological improvement of OLP. In this way it can be viewed as a protected elective treatment for patients with lichen planus.

#### Apthous stomatitis

It is helpful in conditions like apthous ulcer, infection because of its mitigating nature. Use of 2% aloe gel 3 times each day for 10 days on the solitary sore of apthous ulcer shows a decrease in the span of complete injury mending, torment score, wound size, and aggravation zone diameter.<sup>9</sup>

#### Oral submucous fibrosis

Sudarshan et al.<sup>10</sup> did a fundamental report to analyze the viability of A. vera with cell reinforcements in the treatment of oral submucous fibrosis (OSMF). In this examination, 20 subjects with OSMF were incorporated. Patients are isolated into two gatherings, Gathering A got 5 mg of A. vera gel multiple times day by day for 3 months, what's more, Group B got cancer prevention agent containers twice day by day for 3 months. He presumed that A. vera bunch indicated a superior treatment reaction (diminished consuming sensation and upgraded mouth opening) than the cell reinforcements gathering. Subsequently, it can be applied topically and powerful in the treatment.

#### Burning mouth syndrome

It is an excruciating condition, which incorporates manifestations, for example, by consuming sensation in tongue, lips, sense of taste, or all through the mouth. An examination has answered to survey the adequacy of A. vera tolerant with consuming mouth disorder. For that subjects were isolated into three gatherings: Group 1 incorporate tongue defender worn for 15 min

three times each day, Group 2 were treated by tongue protractor and 0.5 ml A. vera at 70% 3 times each day, Group 3 were treated with tongue defender and 0.5 ml fake treatment three times each day. A 3 months treatment demonstrated the better outcome with Group 2, finishing up A. vera is viable in the treatment of consuming mouth syndrome.<sup>11</sup>

#### Gingivitis and Periodontitis

It very well may be utilized in a different periodontal condition, for example, gum disease, interminable periodontitis, etc. A. vera gel shows critical outcomes when utilized as a subordinate to scaling and root arranging in instances of interminable periodontitis.<sup>12</sup>

Subgingival using of Aloe vera brings about improved periodontal condition. Subsequently, A. vera gel can be utilized as a nearby medication conveyance framework in periodontal pockets.<sup>13</sup> Likewise, A. vera mouthwash indicated a wonderful decrease of plaque and gum disease in contrast with chlorhexidine. Aside from its antiplaque quality it is likewise very much acknowledged by patients because of proper refinement in taste and reasonable rack life.<sup>14</sup>

Critical decrease in the gingival list is principally ascribed to its mitigating, antibacterial and wound recuperating property. Carboxypeptidase present in A. vera inactivate bradykinin, diminish prostaglandin amalgamation and restrain oxidation of arachidonic corrosive because of which aggravation is decreased, and furthermore magnesium lactate present in A. vera keep the arrangement of histamine from histamine in pole cell. Aside from this, A. vera additionally hinders invigorated granulocyte grid metalloproteinases repressing cyclooxygenase and lipooxygenase pathways and square polymorphonuclear leukocytes in this manner diminishes edema.

#### In pediatric patient

A. vera has demonstrated to be great obturative material from essential teeth. A. vera alongside sterile water have greatest antimicrobial movement against the vast majority of the microorganisms pursued by calcium hydroxide + A. vera, ZOE + A. vera.<sup>15</sup> It was presumed that A. vera + sterile water was found to have prevalent antimicrobial action against a large portion of the microorganisms, trailed by ZOE + A.

vera, calcium hydroxide + A. vera, ZOE, calcium hydroxide, Metapex in the plunging request and Vaseline indicated no hindrance.

### As an intracanal medicament

Since it has antimicrobial property it tends to be utilized in intracanal prescription. Maintenance of microorganism in dentinal tubule is fundamental explanation of constant endodontic contamination. *E. feacalis* is the fundamental life form which is answerable for this and A. vera is seen as compelling against *E. feacalis* so it can fill in as a decent intracanal medicament.<sup>16</sup>

### Conclusion

Different investigations have revalidated the pharmacological traits of Aloe vera, and these examinations have demonstrated that this medication has an incredible potential as a dental helpful. Subsequently, an appropriate determination, information on the customary drug, and its suggestion to the treatment plan are fundamental for guaranteeing accomplishment with this dentist.

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None.

### Conflict of Interest

None.

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