

**HERBAL RELIEF FOR BRACES PAIN: A REVIEW OF NATURAL SOLUTIONS FOR  
ORTHODONTIC DISCOMFORT**Lalita Tyagi<sup>\*1</sup>, Ashish Sharma, Avinashi Singh, Vinay Kumar, Anita Singh and Vipin Kumar Garg

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**ABSTRACT**

Orthodontic treatment is a common approach to dental misalignment, yet the treatment process often results in discomfort, pain, and inflammation. In recent times, herbal relief gel has gained immense popularity as a natural alternative for treating orthodontic discomfort. In this review, we aim to summarize the current knowledge of herbal relief gels for pain related to braces, including their formulation, efficacy, and safety. A thorough literature Searches explore use of the herbal relief gels being for the management of the orthodontic pain. Herbal relief gels (Products with natural ingredients like aloe vera, tea tree oil, eucalyptus oil, peppermint oil, chamomile) seem effective to reduce orthodontic pain and inflammation. They work via anti-inflammatory, analgesic, and antioxidant mechanisms. Most studies reported herbal topical gels to be safe and well tolerated with relatively few adverse events. This review aims at addressing the opportunity of herbal relief gels as a natural remedy for managing orthodontic pain. These gels could offer a safer and better-tolerated approach to traditional pain management strategies. The conclusions drawn are limited and additional research is warranted to determine the efficacy and safety of herbal relief gels in orthodontic patients.



## INTRODUCTION

Orthodontics is a routine dental treatment used to correct misaligned teeth and jaws, which can lead to a better smile but affect an individual's oral health, confidence, and general well-being. Orthodontic treatment is a long-term process, and during this course, patients experience some discomfort, pain, inflammation, etc. which is one of the biggest problems of orthodontic treatment for patients.<sup>[1]</sup> Traditional methods of pain relief are analgesics and anti-inflammatory agents (ibuprofen and acetaminophen).<sup>[2]</sup> However, these drugs also have adverse effects, including gastrointestinal complications, hypersensitivity reactions, and addiction.<sup>[3]</sup>

In recent years, there has been an increasing interest in natural and alternative therapies to manage pain in orthodontic patients. Herbal relief gels are applied as a natural remedy for orthodontic pain management.<sup>[4]</sup> Such gels are commonly a mixture of natural extracts containing essential oils and botanical elements that exhibit anti-inflammatory, analgesic, and antioxidant activity.<sup>[5]</sup>

Many studies mentioned below provide evidence of use of herbal relief gels for orthodontic pain management. In a randomized controlled trial, patients receiving orthodontic treatment treated with a gel containing aloe Vera and tea tree oil experienced significantly less pain and inflammation.<sup>[6,7]</sup>

### Herbal Relief Gels for Orthodontic Pain

Orthodontics treatment can be painful, ortho herbal relief gels can help in managing that pain efficiently. These gels are fast-acting in treating pain and discomfort and reduce the use of conventional pharmacological therapy drugs.<sup>[8]</sup> Antioxidants and herbal relief gels also come in handy.<sup>[9]</sup>

The same patient-oriented outcomes support use of herbal relief gels in managing orthodontic pain. In patients treated with a herbal relief gel containing aloe vera and tea tree oil<sup>[10]</sup>, several pain and discomfort measures were significantly reduced. One showed patients, treated with a gel containing eucalyptus oil and peppermint oil, demonstrated improvement in oral health and reduced pain.<sup>[11]</sup>

### Medicinal plants in the product relief gels

The herbal relief gels typically contain a formulation of the active ingredients like:

**Aloe Vera:** Aloe Vera is known for its anti-inflammatory and soothing properties. So while aloe can provide convey pain and discomfort. Aloe vera is a succulent plant containing leaves filled with compounds, such as aloin and aloe-emodin, that have antiphlogistic and antioxidant abilities.<sup>[12]</sup>

**Tea tree oil:** Another essential oil, this one has antimicrobial and anti-inflammatory properties, which can assist in minimizing irritation and preventing

infection. Tea tree oil consists of compounds such as cineole and terpinen-4-ol, which exhibit antimicrobial and anti-inflammatory properties.<sup>[13]</sup>

**Eucalyptus:** Eucalyptus is an analgesic and anti-inflammatory, lessening pain and discomfort. Eucalyptus oil is known to have anti-inflammatory and analgesic properties due the presence of compounds like eucalyptol and limonene.<sup>[14]</sup>

**Peppermint oil:** Peppermint oil has a cooling property that might lessen pain and discomfort. Its peppermint oil contains menthol and menthone, 12 which have analgesic and anti-inflammatory properties.<sup>[15]</sup>

**Chamomile:** Has anti-inflammatory and soothing qualities, and relief from pain and discomfort. Constituents include apigenin and luteolin, which have antioxidant and anti-inflammatory activity.<sup>[16]</sup>

**Liquorice extract:** Liquorice extract has anti-inflammatory and antioxidant activities to reduce inflammation and promote healing. Liquorice extract contains glycyrrhizin and liquiritigenin compounds that have demonstrated anti-inflammatory and antioxidant effects.<sup>[17]</sup>

**Propolis:** Propolis has had antibacterial and anti-inflammatory effects, meaning it may assist with inflammation, as well as prevent infection. Flavonoids and phenolic acids in propolis products have antimicrobial and anti-inflammatory properties.<sup>[18]</sup>

**Ginger:** Well known for its anti-inflammatory and analgesic properties, ginger can help to alleviate pain and discomfort. Ginger contains high levels of gingerol and shogaol, which have well-researched anti-inflammatory and analgesic effects.<sup>[19]</sup>

**Turmeric:** Turmeric has anti-inflammatory and antioxidant properties, which can help reduce inflammation and promote healing. With anti-inflammatory agents like curcumin and demethoxycurcumin within them, turmeric already have anti-inflammatory and antioxidant characteristics.<sup>[20]</sup>

**Rosemary:** Rosemary has anti-inflammatory and analgesic properties that may be useful in relieving pain and discomfort. Rosemary contains compounds like rosmarinic acid and camphor, which may offer anti-inflammatory and analgesic effects.<sup>[21]</sup>



### Herbal Relief Gels Benefits

#### 1. Analgesic effect

In yet another randomised controlled trial, topical gelified herbal mixture with aloe vera, tea tree oil and eucalyptus oil was able to induce a significant reduction in pain and discomfort in orthodontic treatment patients. In another study, a gel containing an herbal extract was found to reduce pain and discomfort in patients with orthodontic appliances.<sup>[22]</sup>

#### 2. Anti-Inflammatory Effects

Certain herbal relief gels also demonstrate anti-inflammatory properties. A study discovered that a gel with turmeric, ginger, and rosemary soothed inflammation and stimulated healing in patients with orthodontic devices. Propomax: Another study reported that a gel of propolis, aloe vera, and tea tree oil exerted anti-inflammatory and antimicrobial effects, which can also help in reducing inflammation and preventing infection.<sup>[23]</sup>

**3. Calming effects:** Some herbs, like aloe vera and chamomile, have calming properties. They help soothe the deep tissues, giving you a cooling sensation.<sup>[24]</sup>

### Comparison with Traditional Analgesic Medications

Many studies have compared herbal relief gels with traditional pain management medications. The pain relieving effect of a herbal gel containing aloe vera, tea tree oil and eucalyptus oil was compared to that of ibuprofen in a randomized controlled trial, and the herbal gel was found to be as effective as the drug in minimizing pain and discomfort in orthodontic patients. A gel containing peppermint oil, chamomile, and liquorice extract was more effective than acetaminophen in reducing pain and discomfort in patients with orthodontic appliances, according to another study.<sup>[25]</sup>

### Patient-Reported Outcomes and Health-Related Quality of Life

Other benefits reported include improved patient satisfaction and quality of life with herbal relief gels. A patient satisfaction and quality of life study revealed that patients using a herbal gel prepared from aloe vera, tea tree oil, and eucalyptus oil showed improvement in orthodontic treatment satisfaction and quality of life. In another study, patients who used a gel containing peppermint oil, chamomile and liquorice extract had decreased anxiety and improved sleep quality.<sup>[26]</sup>

### Herbal Relief Gels: Safety and Tolerability

Herbal gel is a good effective natural remedy which are widely used to recover from orthodontic pain and discomfort. However, the effectiveness of these gels necessitates their biosafety and biocompatibility evaluation.<sup>[27]</sup>

The uncooperative effects of herbal relief gels are mostly mild and temporary. These include:

- Irritation of the skin and allergic reactions.
- Rash determined by allergic reaction.<sup>[28]</sup>

### CONCLUSION

It will help you rediscover the fact that herbal relief gels are a natural solution to orthodontic discomfort. The anti-inflammatory and analgesic properties of several herbs such as aloe vera, clove oil, and tea tree oil help relieve the pain and discomfort caused due to braces. In large controlled studies, the gels show evidence of being a better alternative to medications, which can have adverse side effects and in some case do not guarantee long term relief.

The advantages of herbal relief gels are much more than just analgesics. They also support oral health and well-being by decreasing inflammation and warding off

infection. They are also often non-invasive and non-irritating, making herb relief gels an ideal solution for those with sensitive teeth and gums.

Although future research will help define the potential benefits and limitations of herbal relief gels, there is consistency in the current literature indicating that they are safe and effective mechanism to relieve orthodontic discomfort. With the rising need of natural and holistic healthcare solution, along with the popularity of orthodontics, herbal relief gels will soon make their mark as the next go to choice for individuals under orthodontic treatment.

In conclusion, herbal relief gels provide a natural and effective solution for managing orthodontic discomfort. They offer pain relief and comfort, support oral health and wellness, and are a safe and non-invasive alternative to traditional pain relief methods. Because of this, they are a great option for those looking for a holistic approach to managing their orthodontic pain.

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