



Dental gel- Enhancing oral hygiene

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Abstract:

The goal of the study was to create and assess Dental Gel. It offers a broad range of antibacterial activity against conditions like plaque, gingivitis, periodontosis, and dental cavities. As a result, it is chosen to effectively treat them. All racial, ethnic, gender, and socioeconomic groups are susceptible to periodontal disease, which is acknowledged as a serious global public health concern. The purpose of this paper is to investigate how the administration of fluoride gel affects modifications in the characteristics of dental biomaterials and tooth tissues. Over the years, a number of synthetic medications have been tested for their antibacterial properties in the oral cavity; however, all of them have a number of negative side effects that make regular, long-term use of them impossible. Because natural medicines are thought to be safer and have fewer adverse effects than Synthetic ones, they are more widely accepted. Thus, the goal of the current study was to develop, describe, and assess a gel-based dental material that is more stable in terms of rheological behaviour, long-term protection, and stability in a variety of settings with the fewest possible negative consequences. Therefore, the standardization of herbs and their formulations benefits from the employment of contemporary techniques that concentrate on these factors. Customers felt that modern-based dental gels were less harmful, safer, and more effective.

Key words: Oral tooth care , dental gel, dental diseases , periodontal disease, non- opioid analgesics, opioid analgesics, topical anaesthetics, common types of dental gels, marketed products.

Introduction to human tooth:

An adult human typically has 32 teeth, arranged as 16 in the upper (maxilla) and 16 in the lower (mandible) jaws. These teeth are anchored in the sockets (alveoli) of the alveolar ridges. The sequence of teeth from the front to the back includes: Incisors, Canines, Premolars, and Molars.

- **Incisors** are the front four teeth in both the upper and lower jaws. They function primarily in cutting, gripping, and tearing food. Their broad, flat, and thin biting surfaces create a chisel-like edge ideal for slicing.
- **Canines (Cuspids):** Canines, also known as cuspids, are pointed teeth located next to the incisors. They are designed to grip and tear food.
- **Premolars (Bicuspid)** : Premolars and molars have raised surfaces called cusps that help in breaking down food. Premolars usually have two cusps-hence the name bicuspid-and are used for holding and crushing food.
- **Molars**, found at the back of the mouth, are broad and flat with four or five cusps. They are specialized for

grinding and crushing food.

- **Wisdom Teeth:** Also called third molars, wisdom teeth typically emerge around the age of 18 but are often removed surgically.

Parts of a Tooth:

- **Crown:** The crown is the visible part of the tooth above the gums, covered with enamel- the body's hardest substance which protects the tooth from acid damage.
- **Neck:** Also called the cervix, this is the narrow area where the crown meets the root.
- **Root:** The root anchors the tooth into the jawbone socket. It may have one to three branches, with larger teeth like molars often having multiple roots.
- **Dentine:** Dentine forms the bulk of the tooth and has a bone-like structure. Unlike enamel, it is a living tissue that can react to decay. When enamel caries reach the enamel- dentine junction, the decay spreads sideways, affecting many dentinal tubules. In its early stages, the decay appears as a cone with the base near the surface.
- **Enamel:** Enamel is the hard, outer layer covering the crown. It is even tougher than bone. In early tooth decay on smooth surfaces, the lesion appears as a white spot in a cone shape, with the tip pointing toward the enamel-dentine junction. The lesion consists of different zones based on how much mineral has been lost.
- **Cementum:** Cementum is a hard, bone-like substance that covers the tooth root. The gums (gingivae) cover the alveolar bone and slightly extend into each tooth socket. At the center of the tooth is the pulp cavity, which contains blood vessels, lymph vessels, and nerves-all surrounded by dentine.



Fig-1 Parts of a tooth

Introduction to Dental gel:

Dental gel is an oral hygiene product applied to the teeth and gums to maintain cleanliness and promote oral health. It comes in a gel form and serves various purposes such as cleaning the mouth, freshening breath, minimizing plaque, easing gum irritation, and delivering active substances like fluoride or desensitizing agents. Different types of dental gels are designed to address specific needs, including whitening, sensitivity relief, and cavity prevention.



Fig-2 Types of human teeth

Periodontal disease refers to a group of conditions affecting the tissues supporting the teeth. One common feature is the development of a periodontal pocket, which is an abnormally deepened gum sulcus. Gingivitis is the initial stage of periodontal disease, marked by symptoms like gum redness, swelling, and slight bleeding, mainly due to the buildup of plaque above the gumline.

Oral hygiene involves keeping the mouth clean and disease-free, typically through regular tooth brushing and good hygiene habits. Natural ingredients have recently gained attention as potential agents for preventing oral conditions, particularly those caused by plaque, such as dental caries. Tooth decay, or cavities, is a bacterial infection that leads to the breakdown of tooth enamel due to acid production from food residue.

Today, dental diseases are increasingly common globally and can be either short-term or long-lasting. Effective treatment requires antibacterial agents and proper drug delivery at the site of infection with minimal side effects. Dentifrices, used to maintain dental and oral health, help clean and polish the teeth. They are generally categorized as either basic or therapeutic and are available in forms like paste, gel, or powder.

These products typically contain flavouring agents, surfactants, fluoride, binders, and key ingredients such as humectants, desensitizing compounds, and both herbal or chemical medications. They are used to prevent cavities, plaque, and various oral health issues. Recently, herbal dentifrices have become popular due to their fewer side effects.

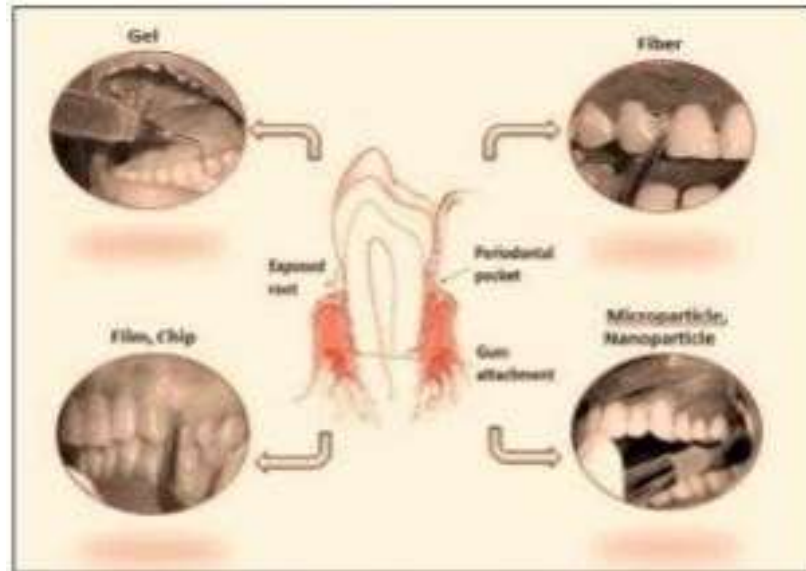


Fig-3 local drug delivery methods for periodontal disease

The above image shows different localized delivery systems for treating periodontal pockets around teeth, including:

- Gels
- Fibers
- Films or chips

Target Site:

All these delivery forms are applied directly to the periodontal pocket (the space between the tooth and gum where infection and inflammation occur).

Purpose:

The treatments aim to help gum reattachment to the tooth root and reduce infection and inflammation in the exposed root area.

TABLE: 1 Advantages and disadvantages

Advantages	Disadvantages
The gel can be applied by the user, which helps reduce the cost of professional application .	The gel may dry out over time; hence , the substances like glycerol(10%) , polyethylene glycol are added to enhance its thickness , effectiveness and shelf life
It is safe and non-toxic	It can leave a sticky sensation on the skin.
It is gentle on the skin and does not cause irritation	Teeth should remain wet for approximately 4 minutes during use.
It hydrates and soften the skin	It should not be stored in glass containers
Produces minimal foam and splatter during use	The gel has an acidic, sour and slightly bitter flavour
It is formulated with fewer chemical components	Some teeth might temporarily develop white spots after the whitening process
Forms a thin , even layer over the teeth and spreads easily	Whitening gels, particularly those with peroxide, can increase tooth sensitivity, causing discomfort when consuming hot or cold food and beverages.
Its formula is mildly abrasive , primarily made with silica giving it a smooth consistency and a shiny appearance	Uneven application or inconsistency in the gel's strength may result in patchy and irregular whitening
It strengthen teeth and enhances their resistance to acid and bacterial damage .	To maintain brighter teeth , individuals might need to avoid specific food and drinks or reduce tobacco use
Can be used as a supportive treatment for oral thrush	The whitening results are usually not long- lasting and may diminish over time, necessitating repeated applications
It aids in healing recurring mouth ulcers and relieving denture- related discomfort.	In rare instances, users might experience allergic reactions to certain components in the dental gel
It Reduces tooth sensitivity	The gel has the potential to cause nerve damage.
Assists in managing gum issues like inflammation, bleeding and swelling.	Its use is not advised during pregnancy and breastfeeding, as hormonal changes during these periods can increase sensitivity

Dental diseases:

Diseases refer to any alteration or disturbance in the normal structure or functioning of the body. Generally, their cause, development, and likely outcome are well understood. Since “oral” pertains to the mouth, oral diseases are conditions that affect the mouth and are often the result of poor oral hygiene. Oral infections occur when microorganisms, which are typically harmless, invade the mouth and become harmful under certain conditions. While the oral cavity hosts a wide range of microorganisms, only a few are considered true oral pathogens, or odontopathogens. These specific bacteria are responsible for the most common infections in humans.

- Plaque,
- tartar,
- gingivitis,
- periodontitis, and
- tooth decay are common dental issues.

Both dental caries and gingivitis often develop during childhood. However, caries tend to become more aggressive during puberty, as the teeth become more vulnerable. This progression is further accelerated by frequent consumption of sugary foods or the use of syrup-coated conformers.

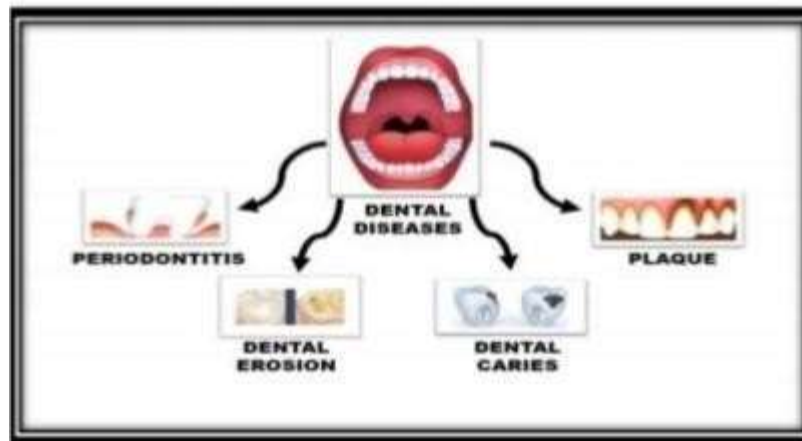


Fig-4 Types of Dental disease

World Health Survey:

According to the World Health Survey 2003, India conducted by the World Health Organization (WHO), around 28% of participants in India reported experiencing oral health issues, with the highest prevalence of 42% found in West Bengal. A separate study by Khan et al. (2008) revealed that dental caries affect as much as 60-65% of individuals in certain regions globally, while the overall global risk remains at approximately 35%. In 2004, India carried out a detailed nationwide health survey to evaluate dental disease trends and severity across various age groups and regions.

This assessment included an analysis of both coronal and root surface caries, reflecting the overall dental disease burden. Oral health involves routine practices like brushing and flossing to keep the teeth clean and prevent cavities and gum infections.

Plaque:

Plaque is a soft, sticky film that develops on teeth several hours after eating. It consists mainly of bacteria that haven't been cleared away. These bacteria release acids that erode the tooth enamel, leading to cavities. As the acid damage progresses, the tooth becomes sensitive and painful.

Plaque typically accumulates in the grooves and crevices of the teeth, and if not cleaned regularly, it breaks down the enamel and causes tooth decay. It also contributes to gum disease, known as periodontal disease. When plaque hardens, it becomes tartar.

Irregularities or deformities in the teeth create more areas where plaque can collect, making it harder to maintain proper oral hygiene. In cases of early tooth loss, often caused by decay,

orthodontic intervention is usually necessary.

Permanent Tooth Eruption and Orthodontic Appliances:

Permanent teeth erupt into the dental arch as part of natural development. However, orthodontic devices can create areas where food and bacteria accumulate, making plaque control more challenging.

Periodontal Disease:

Periodontal disease is a slow-progressing condition that typically becomes apparent in middle age. Except in cases of severe vitamin- C deficiency, which can cause scurvy-related periodontitis, there is little evidence linking diet directly to periodontal disease. Current research is exploring the potential protective role of antioxidant compounds. Dental plaque remains the primary factor in the development of periodontal disease, which is why preventive strategies focus heavily on maintaining good oral hygiene. Evidence suggests that malnourished populations may experience more rapid progression of periodontal disease, likely due to the crucial role nutrition plays in supporting the body's immune defenses. In undernourished African children, an overgrowth of harmful periodontal bacteria has been observed. High sucrose intake is linked to increased plaque formation because it promotes the production of extracellular glucans, which in turn is strongly associated with gingivitis



Fig-5 Stages of periodontal disease

Risk factors:

Factors that increase the risk of developing periodontal disease include:

- Use of tobacco products, including smoking
- Inadequate oral hygiene practices
- Presence of diabetes
- Autoimmune conditions
- Hormonal fluctuations
- High stress levels
- Hereditary predisposition
- Heart problems



Fig-6 Periodontal teeth

Types of Periodontitis:

1. Gingivitis: Gingivitis represents the earliest and mildest stage of periodontal disease. It causes the gums to appear red, swollen, and sensitive. Bleeding may occur easily during brushing or flossing. With professional dental treatment and consistent oral hygiene at home, these symptoms can effectively reversed.



Fig-7 Gingivitis

2. Aggressive Periodontitis:

This type of periodontitis affects individuals who are otherwise medically healthy. It is marked by rapid loss of the supporting structures of the teeth, including significant bone deterioration.

3. Chronic Periodontitis:

The most common form of periodontitis, it involves the formation of periodontal pockets or gum recession. It leads to inflammation in the tissues that support the teeth and progressive bone loss.

4. Periodontitis Associated with Systemic Diseases:

Typically starting at an early age, this type is linked to systemic health conditions like cardiovascular disease, respiratory disorders and diabetes .

5. Necrotizing Periodontal Disease (NPD):

This condition is a severe infection marked by the death (necrosis) of the gum tissue, periodontal ligament, and the alveolar bone. It typically presents as painful lesions and is more frequently seen in individuals with underlying systemic issues such as HIV, malnutrition, or a weakened immune system.

Contributing Factors and Development:

NPD is a severe outcome of untreated periodontal disease, which primarily stems from inadequate oral hygiene. When plaque and tartar build up on the teeth, they become a haven for harmful bacteria. These bacteria release toxins and acids that irritate the gums, triggering an inflammatory response. Without timely intervention, the inflammation escalates-causing gum recession, bone destruction, and ultimately, tooth loss.

Inadequate oral care: Failure to brush and floss consistently allows plaque and tartar to accumulate, fostering bacterial growth.

Plaque and tartar buildup: These deposits harbour bacteria that release toxic substances, damaging the supporting structures of the teeth.

Inflammation response: The body's defense system reacts to the bacterial growth.

Advancement to periodontitis: If gingivitis remains untreated, the infection can spread below the gum line, destroying connective tissue and bone, and forming deep pockets between the teeth and gums.

Signs and symptoms of periodontitis may include:

- Gums that appear swollen or inflamed
- Gums with a bright red, deep red, or purplish color
- Tenderness in the gums when touched
- Gums that bleed easily
- A pink tint on your toothbrush after brushing
- Bleeding while brushing or flossing
- Persistent bad breath
- Presence of pus between the teeth and gums
- Teeth that feel loose or have fallen out
- Discomfort or pain while chewing



Fig-8 Symptoms of periodontitis

Complications:

Periodontitis may lead to tooth loss. The bacteria responsible for this condition can enter the bloodstream through the gums and potentially impact other areas of the body. It has been associated with various health issues, including respiratory infections, rheumatoid arthritis, heart disease, premature birth, low birth weight, and difficulty managing blood sugar levels in individuals with diabetes.

Prevention:

The most effective way to avoid periodontitis is by establishing and maintaining a strong oral hygiene routine from an early age and continuing it throughout life.

- **Proper Oral Hygiene:**

Brush your teeth for at least two minutes, twice daily—once in the morning and once before bed. Floss at least once a day, ideally before brushing, to dislodge food particles and bacteria. This routine helps keep your mouth clean and reduces harmful bacteria responsible for gum disease.

- **Routine Dental Check-ups:**

Visit your dentist regularly, typically every 6 to 12 months, for professional cleanings and check-ups. If you have factors that raise your risk—like a dry mouth, certain medications, or smoking—more frequent visits may be necessary.

- **Flap Surgery (Pocket Reduction Surgery):**

In this procedure, a periodontist gently lifts the gums to expose the tooth roots for deep cleaning (scaling and root planing). If bone loss has occurred, the underlying bone may be reshaped before the gum is stitched back. Healing makes it easier to clean these areas and maintain healthy gums.

- **Soft Tissue Grafts:**

When gum recession exposes tooth roots, tissue is often taken from the roof of the mouth or a donor source and attached to the affected site. This protects exposed roots, prevents further gum loss, and improves appearance.

- **Bone Grafting:**

If bone around a tooth root has been damaged by periodontitis, grafting may be needed. The graft material—your own bone, synthetic, or donor bone—helps secure the tooth and encourages natural bone regeneration.

- **Guided Tissue Regeneration:**

A special membrane is placed between existing bone and the tooth to prevent unwanted tissue from growing into the area. This allows bone to regenerate in spaces where it was lost.

- **Application of Tissue-Stimulating Proteins:**

A gel containing proteins found in natural tooth enamel is applied to the diseased root. This encourages the growth of healthy gum tissue and bone, aiding in recovery.

Treatment:

Treatment can be provided by a general dentist or a periodontist—a dental specialist focused on gum diseases. A dental hygienist may also be involved in your care. The primary aim of treatment is to deeply clean the spaces around the teeth and to protect the surrounding gum tissue and bone from

further harm.

Successful treatment is more likely when you maintain a consistent oral hygiene routine, control any health issues that affect dental health, and avoid tobacco use.

Nonsurgical Treatments:

In the early stages of periodontitis, less invasive methods may be effective, such as:

Scaling: This procedure removes plaque and tartar from the tooth surfaces and below the gumline using specialized tools, lasers, or ultrasonic devices.

Root Planing: This technique smooths the roots of the teeth to discourage further buildup of bacteria and tartar and promotes gum reattachment to the teeth.

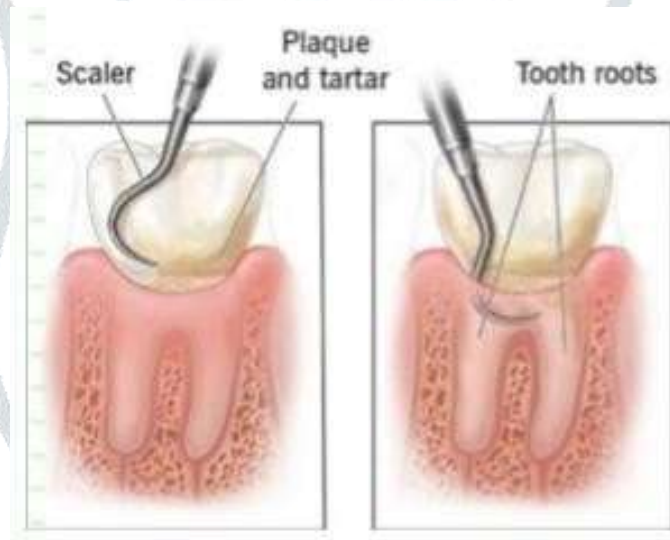


Fig-9 Tooth scaling and planing

Antibiotics: Both topical and oral antibiotics can be used to manage bacterial infections. Topical options may include antibiotic mouth rinses or gels placed directly into the gum pockets. In some cases, oral antibiotics are necessary to eliminate the bacteria responsible for the infection.

Surgical Treatments: For severe periodontitis, surgical procedures may be required, such as:

Bone Grafting: When bone has been lost due to gum disease, bone grafting is performed to help rebuild the lost bone. This procedure restores support for the teeth and can involve using the patient's own bone, donor bone, or synthetic materials.

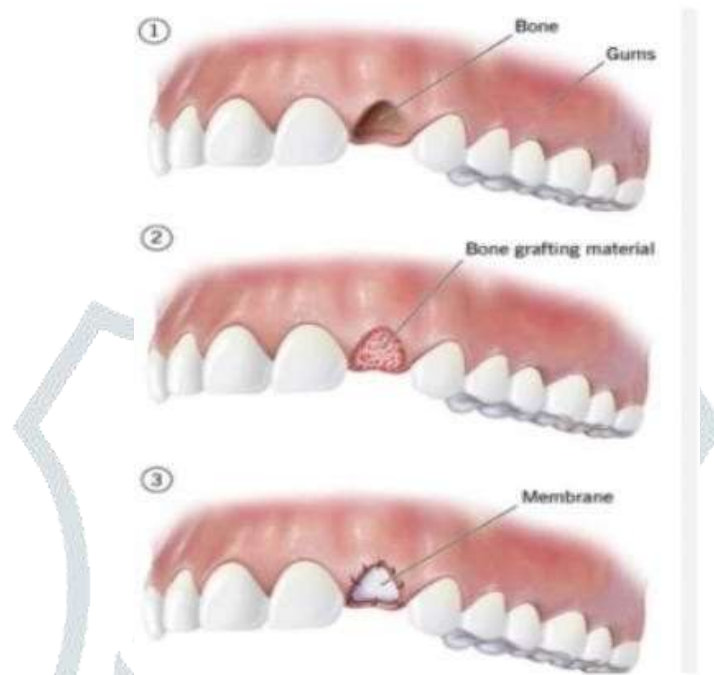


Fig-10 Bone grafting

Gum Grafting: Healthy gum tissue is transplanted to areas where the gums have receded, helping to rebuild the gumline and shield exposed tooth roots.

Osseous Surgery: The bone around teeth is reshaped to remove deep pockets and encourage healing, typically used when there has been major bone loss.

Laser-Assisted Treatments: These are low-impact procedures that use concentrated light energy to remove infected tissue and stimulate healing.

Pocket Reduction Surgery: The gums are lifted to clean out plaque and tartar, then repositioned to decrease the depth of pockets and slow the disease's progression.

Diagnosis:

To determine if you have periodontitis and how advanced it is, your dentist may take the following steps:

- Review your medical history to identify any contributing factors, such as smoking or medications that lead to dry mouth.
- Perform a visual examination of your mouth to check for plaque and tartar buildup and to see if your gums bleed easily.
- Measure the depth of gum pockets by using a small dental probe placed between your teeth and gums. This is done at multiple spots around your mouth. Healthy pockets are typically 1 to 3 millimeters deep. Depths over 4 mm may be a sign of periodontitis, and those over 5 mm are difficult to clean with regular oral hygiene.
- Take dental X-rays to identify bone loss in areas where deep pockets are present.

Nonopioid Pain Relievers:

Pain management options include acetaminophen and non-steroidal anti-inflammatory drugs (NSAIDs). These are commonly recommended by dentists to manage mild to moderate dental pain effectively. Acetaminophen helps temporarily reduce pain and fever, while NSAIDs reduce both pain and inflammation.

TABLE:2 Examples of NSAIDS

S.no	NSAIDS	Dosage form	Risks	Images
1.	Ibuprofen	Recommended dosage:400mg every 4-6 hours Maximum daily limit : do not take more than 3,200 mg in a day	It can affect the heart, digestive system , and kidneys and may also trigger skin reactions . It is not recommended for use by pregnant women after 30 weeks of pregnancy.	
2.	Aspirin	Suggested dose: 1 to 2 tablets (325 mg each) every 4 hours , or 3 tablets every 6 hours. Maximum daily intake should not exceed 12 tablets or 3,900 mg per day.	Aspirin can lead to allergic reactions and may cause stomach bleeding in certain people.	
3.	Naproxen	Initial dose : 500 mg followed by 250 mg every 6-8 hours as needed. Daily maximum: should not go beyond 1,250 mg in a 24 – hour period	This drug affect the heart, gastrointestinal tract , kidneys and liver health and may also cause possible skin reactions. Healthcare professionals advise against its use during pregnancy from 30 weeks onward.	
4.	Diclofenac	Recommended daily amount : 100 mg. Higher doses should only be taken under doctor's supervision	Studies may indicate that diclofenac may raise the risk of heart-related issues. It can also negatively affect the digestive system, kidneys and liver .	

Opioid Analgesics:

Opioids are a group of powerful pain-relieving medications that work by attaching to opioid receptors in the body. This action blocks pain signals that travel through the spinal cord, reducing the sensation of pain. Many people are first introduced to opioids when seeking relief from dental pain.

TABLE: 3 Examples of opioid Analgesics

Opioid Analgesics	Dosage form	Limit
Codeine	This medication is available in tablet form .The usual dosage ranges from 15-60mg every 4 hours throughout the day .	The maximum recommended dose is 360 mg within a 24- hr period
Oxycodone	For pain relief , a typical recommended dose is 5-15mg every 4-6 hours as needed.	Oxycodone should be used at the lowest effective dose for the shortest possible time .
Hydrocodone	There is also a tablet form that includes acetaminophen. Depending on its strength , individuals may take 1-2 tablets every 4-6 hours when required.	The total daily intake should not exceed 2.5-5 mg tablets or 7.5-10 mg tablets.
Morphine	For adults beginning treatment , the suggested starting dose is 10-20mg every 4 hours.	Morphine oral solution is commonly available in three strengths : 2mg/mL, 4mg/mL and 20mg /mL

ANTIBIOTICS:

When tooth pain is caused by a bacterial infection, antibiotics are often prescribed to eliminate the infection. Commonly used antibiotics include:

- Amoxicillin
- Clindamycin
- Azithromycin
- Doxycycline

TOPICAL ANAESTHETICS:

Topical anaesthetics are gels or creams that help ease discomfort by numbing the affected area.

These can be applied directly to the painful tooth. Lidocaine and benzocaine are common ingredients found in these anaesthetics.

- **Benzocaine** helps relieve toothache by blocking nerve signals in the affected area. It can be used up to four times a day or as directed by a dentist or doctor.
- **Lidocaine** is a local anaesthetics sometimes used in dental settings to reduce pain from toothaches or procedures. It works by preventing nerve signals, resulting in temporary numbness.

Local Anaesthetics Injections:

For more severe tooth pain or procedures such as root canals, dentists may use lidocaine injections. These provide deeper and longer-lasting pain relief by numbing a wider area.

Dietary Modifications:

It’s advisable to limit snacking, as frequent snacking provides a constant source of fuel for acid-producing bacteria in the mouth. Sticky or chewy foods like candy and dried fruits tend to cling to the teeth for extended periods, increasing the risk of decay. Brushing after meals is encouraged. Additionally, chewing gum with xylitol, a type of sugar alcohol, can help decrease dental plaque buildup.

TABLE:4 Types of dental gels

Dental gels	Types	Advantages	Disadvantages
Natural dental gels	1. Aloe vera dental gel : known for its calming and anti-inflammatory effects . 2. Coconut oil : offers natural antimicrobial benefits. 3. Xylitol: A naturally derived sweetener that also helps reduce bacterial growth 4. Vit-E: Acts as an Antioxidant , helping to protect oral tissues .	<ul style="list-style-type: none"> • Safe for use, non- toxic and environment friendly • Mild on teeth and gum tissues • Budget-friendly and affordable • Free from synthetic preservatives 	<ul style="list-style-type: none"> • Reduced absorption or effectiveness in the body • May not be appropriate for all users • Has a shorter usable lifespan • Results can differ from person to person
Synthetic dental gels	1. Anaesthetic dental gels : applied to numb the gums and surrounding tissues during dental treatments 2. Fluoride gels: used to fortify tooth enamel and prevent tooth decay 3. Etching gels : used to create a rough surface on enamel, enhancing the bond with restorative materials 4. Caries removal gel : designed to soften decayed dentin, making it easier to remove with instruments.	<ul style="list-style-type: none"> • Simple to apply and remove • Suitable for short- term dental repairs. • More economical compared to other options • Forms a protective barrier and ensures targeted drug delivery, reducing physical irritation and enhancing local treatment effects 	<ul style="list-style-type: none"> • Could trigger sensitivity or allergic reactions in some individuals • Susceptible to staining or discoloration over time • Limited lifespan or effectiveness • May lack the durability of conventional dental materials



Fig-11 Natural Dental gels



Fig-12 Synthetic Dental gels

Common varieties of dental gels include:

- **Teeth Whitening Gel:** Formulated with gentle abrasives and hydrogen peroxide to eliminate surface stains and brighten the teeth.
- **Antimicrobial Gel:** Typically includes agents such as chlorhexidine to combat bacteria, minimize plaque buildup, and help prevent gum disease.
- **Sensitivity Relief Gel:** Contains compounds like potassium nitrate that work to alleviate tooth sensitivity.
- **Fluoride Gel:** Enriched with fluoride to reinforce enamel, help prevent cavities, and lessen tooth sensitivity.
- **Natural/Organic Gel:** Composed of naturally derived ingredients, typically free from synthetic sweeteners, colorants, and preservatives.



Fig-13 Different types of Dental gels

Why Dental Gels Are Often Preferred Over Toothpaste:

Dental gels are generally favoured over traditional toothpaste for several reasons:

- **Less Abrasive:** Their smooth texture makes them gentler on teeth and gums, reducing the risk of irritation or enamel wear.
- **Ideal for Sensitive Teeth:** They are particularly beneficial for individuals with enamel defects or sensitivity issues.
- **Pleasant Sensation:** Gels often provide a refreshing taste and soothing feel during use.
- **Wide Availability:** Various gel-based oral care products are available on the market, catering to different needs.

Examples of Marketed Dental Gels:

- Looloo Herbal Dental Gel (Neem) 100g
- Acute Toothache Relief Dental Gel 5.3g
- Dental Gel for Gum Problems – 50g
- Orasore Dental Gel 6.5g

Dental Gels for Children:

- Orajel Natural Tooth and Gum Gel
- Jason Natural Children's Tooth Gel
- Hello Oral Care Tooth Gel

Conclusion:

Oral health is a crucial component of overall human well-being. Recent findings from the World Health Organization (WHO) highlight that oral diseases are among the most widespread health conditions globally. These diseases can lead to discomfort, pain, tooth loss, and, in rare instances, even death. Common types of dental conditions include tooth

decay (dental caries), gum diseases such as periodontitis and gingivitis, plaque buildup, and dental pain. Various methods are employed for treatment of dental diseases. Hence it is important to take care of oral health by following the doctor's advice and maintaining a daily oral healthcare routine to prevent dental diseases.

Conflict of Interest:

The authors declare no conflicts of interest .

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