Oral Hygiene Products

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ABSTRACT
The aim is to gather and gain knowledge about various oral hygiene products. The objective of this study is to compile the various advances with regard to oral hygiene products. Oral hygiene plays an inevitable role in the overall well being of a person. Oral hygiene aids play an indispensable role in the maintenance of oral hygiene. Oral health approaches should be tailored to lifestyles and abilities of children, adults and the elderly in order to enable them to make decisions to improve personal oral hygiene and oral health. The Reason for the project is to understand the various oral hygiene techniques and the products used so as to improve the quality of life.

Keywords: Oral hygiene, Products, Oral health, Floss.

INTRODUCTION

Dental conditions that aren’t treated properly and poor oral hygiene have a great impact on the quality of life of children which may lead to overall downfall of health.¹

The longer a person puts off his or her treatment the worsens the condition of the disease gets, and also the costs of the treatment are elevated as a consequence.²

Deteriorating dental health of many children and adults leads to pain, discomfort, insomnia and extended holidays which is of a major concern.³

Maintaining the oral cleanliness by microbial plaque removal and prevention from accumulation on the teeth for the preservation of oral health is defined as personal oral hygiene.

Plaque is the primary reason for gingivitis and periodontal diseases,¹² so these diseases can be prevented by plaque control.

Apart from plaque removal which plays a role in the prevention of dental caries, fluoride from fluoridated dentifrices prevents dental caries to a major extent.

The first traces of oral hygiene products dates back in the Chinese literature to about 1600 BC in the form of chewsticks.

The importance of removal of deposits from the tooth surfaces was commented by Hippocrates (460-377 BC).⁴

At about 16th century the first toothbrush with bristles was introduced. The public awareness about the importance of personal hygiene is increasing, with the number of caries experience decreasing, the number of people retaining their teeth is also increasing and new significance on aesthetically attractive dentitions.³

Oral health is a critical but overlooked component of overall health and well-being among children and adults. There is increasing evidence of associations between oral infections and other diseases, such as pre-term, low birth weight babies, heart disease, lung disease, diabetes and stroke among adults (National Institute of Dental and Craniofacial Research, 2000).⁶

The current oral hygiene measures include-toothbrushes, floss, chewing gums, mouth rinses and toothpastes.⁵⁶

This review aims to compile details about various oral hygiene products.

Tooth Brushing

It has been quoted by the Council of Dental Therapeutics, “In fact, the data from some studies emphasize the ability of persons to maintain good oral hygiene through effective use of a conventional toothbrush if they possess reasonable dexterity and have been trained adequately in the proper use of the brush”⁷.

The toothbrush’s design, individual brushing skill, the frequency and duration of brushing determine the control of dental plaque.⁷

At the European Workshop on mechanical plaque control, it was accepted that the following should be the attributes of an ideal manual toothbrush.⁸

1. The size of the handle should be appropriate to use, with regard to age and dexterity.
2. Head size should be appropriate to the size of patient’s mouth.
3. The end-rounded nylon or polyester filaments must not have a diameter more than 0.009 inches.
4. Use of soft bristle configuration, as defined by the acceptable International Industry Standards (ISO)
5. Bristle patterns must enhance plaque removal in the approximate spaces and along the gum line. Recent modifications include nylon multi-tufted round-ended bristles for improved efficacy, small-sized head for better access, designs to favor inter proximal access and longer handles to enable a firm grip. Sharma have reported that plaque removal from hard-to-reach areas can be achieved by criss-cross bristles angled in opposing directions. It was concluded by the researchers that greater plaque removal outcomes can be achieved by the advances in toothbrush design.

Although brush stroke movements vary (for example, roll, circular, scrub) and should concentrate on the cervical and inter proximal areas where plaque is most detrimental, the individual’s dexterity and thoroughness are more critical than technique or design in determining efficacy of plaque removal.

Recent well-controlled studies report the new electric toothbrushes to be superior in plaque removal to manual toothbrushes but significant improvements in gingival health are yet to be shown.

**Tooth Paste**

Mild abrasives and detergent components promote plaque removal, although the abrasivity can damage exposed root surfaces.

Insignificant reductions in calculus formation have been reported in clinical studies using formulations containing 0.5 per cent zinc citrate alone, but in combination with the non-ionic chlorinated bis-phenol Triclosan T, M zinc citrate acted synergistically to produce significant reductions.

Antibacterial properties of saliva are enhanced by adding enzymes such as dextranase and lactoperoxidase (for example, BioteneTM).

Herbal extracts such as aloe vera and those containing sanguinarine which are detergent-free dentifrices have shown a lack of therapeudic efficiency.

Well recognized cariostatic benefits are achieved by fluoridated dentifrices (usually 1,000-1,500ppm fluoride as sodium fluoride or sodium monofluorophosphate).

The risk of fluorosis in young children who may ingest dentifrices are reduced by recommending small amounts of dentifrices with lower fluoride concentrations (400-500ppm).

Interest in natural-based toothpastes has increased recently.

For example, the composition of Paradontax (GlaxoSmithKline, Middlesex, United Kingdom) is sodium bicarbonate, sodium fluoride (1,400 ppm) and herbal ingredients which include camomile, rhatany, echinacea, sage, myrrh, and peppermint oil. Each individual component has a variety of medicinal properties.

**Floss**

Most periodontal diseases originate inter proximally, including gingivitis, which is most frequent and severe at these sites.

Dental floss is the most effective means for removing interdental plaque and reducing interdental gingival inflammation.

Unfortunately, most people do not floss routinely.

With flossing aids inter proximal plaque can be removed and decrease inflammation and bleeding as effectively as hand-held floss.

This method is of particular benefit for children or non-dextrous adults.

In a fluoridated community, daily flossing by hygienists of the teeth of preschool children reduced inter-proximal caries by 30 per cent.

**Chewing Gums**

Clearance of dietary substance and microorganisms is accelerated by the use of sugar-free chewing gum as it mechanically stimulates the saliva.

It also promotes buffers to neutralize plaque acids and provide antibacterial substances.

A reduction in the fall in PH levels of plaque and fast recovery is seen 20 minutes after chewing a sugar free gum.

A reduction in the time for demineralization and an enhancement in the potential for demineralization of lesions which are in the early carious stage is brought about by the action of these gums.

Stimulation of the rate of flow of saliva is increased three to tenfold more than the resting level.

An enhancement saliva function is seen in those with low flow rates. It helps provide relief from dry mouth in elderly people suffering from xerostomia.

**Mouth Washes**

Chlorhexidine has wide range of antimicrobial activity.

It’s effectiveness is seen against both Gram-negative and Gram-positive bacteria and also anaerobes and aerobes, fungi, yeast and lipid enveloped viruses.

Mouthwashes based on essential oils contain menthol, eucalyptus and thymol in an alcoholic solvent.

They are a wide variety of antimicrobial agents that reduce multiplication of bacteria, aggregation and pathogenicity.

Cetylpyridinium chloride has a moderate plaque inhibitory activity.
Due to its cationic nature it binds to the cell membrane of the bacteria destroying the cell membrane and leads to the leakage of intracellular components.

Triclosan has been used in many toothpastes and mouthwashes due to it’s anti-inflammatory property.\(^3\)

Various studies have shown that Triclosan reduces the inflammatory reaction on the gingiva and reduces the severity and healing period of recurrent aphthous ulcers.\(^3,14\)

CONCLUSION

All these products aim at preventing caries and most of the periodontal diseases.

They promote healthy oral tissues which in turn is the evident marker of the oral health.

These products eventually ensure that oral health is maintained without any hinderance no matter what the age or the present condition of the user is.

We’ve have evolved from chewsticks to electronic toothbrushes and there has been a marked evolution with regard to all the other oral hygiene products.

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