KNOW WHAT DENTAL PROFESSIONALS WORLDWIDE ARE SAYING ABOUT:

“MISWAK” - A TOTAL CARE INGREDIENT OF TOOTHPASTE.

“FROM NATURE ITSELF”.

“.. I take a measure of pride in being among the first dentists to share its (Peelu / Miswak) healthful benefits with my patients.(1)”

In recent times chewing stick plants such as Neem and MISWAK (Salvadora persica) have been successfully used in commercial toothpaste products by many local and overseas manufacturers to provide their oral health benefits in convenient form. Several studies have been conducted which could indicate their superior nature as compared to routine toothpaste products.

Miswak - has been readily accepted by Americans / Europeans and Middle East World for its high value in oral care. Also, Miswak has been a traditional oral care ingredient in India. Chemical analysis of Miswak Extract done by a Swiss Pharmaceutical company revealed that it contains a total of 19 natural substances which are beneficial to dental health. Today the amazing qualities of Miswak, the chewing stick plant has been transformed into effective toothpaste, toothpowder, mouthwash, extract and chewing gum preparations. Herbal properties of Miswak ingredient have been extensively investigated and found to contain periodontal health benefits. The plant fibres, used in toothpaste, provide mild abrasive system while in contact with moisture, swell and become soft, and consequently, do not cause wear on the surface of the tooth. Resins present in the plant may place a protective coating on the tooth enamel which helps prevent the development of sensitive teeth and tooth decay. Extracts used in toothpaste helps to provide anti-microbial compounds useful to eliminate harmful plaque bacteria.

Research studies conducted by a Swiss Pharmaceutical Company (2) and confirmed at Riyadh University, Saudi Arabia and Indiana University, Bloomington, USA, indicated that Miswak extract contains anti-bacterial substances destroying the harmful germs in the mouth which cause gum infections and tooth decay - making it a ’total’ care ingredient in a toothpaste.

About more information on “Miswak’s traditional uses and its scientific dental research” read the enclosed literature.

(1) Endorsement of a Peelu toothpaste product from USA by Dr. J. Mittleman, D.D.S.
    (Former president, International Academy of Preventive Medicine)

(2) Parbha Basle Ltd., Switzerland.
MISWAK - NATURE’S EXCELLENCE
IN ORAL HEALTH CARE

WHAT IS MISWAK, ITS CURRENT USE

Miswak (Botanical Name: Salvadora persica) root and bark has been traditionally used over 1000 years as a chewing stick or natural toothbrush to strengthen the gums (1). This multi-purpose stick cleans the mouth, whitens the teeth and sweetens the breath, and is widely used throughout India, Africa and the Arab world. The teeth can be cleaned by drawing the miswak from the edge of the gums up or down to the cutting edge of the teeth. The miswak has a taste which has been described as “pleasantly bitter”.

Many people nowadays combine modern and traditional methods, by brushing with a plastic toothbrush in the morning and carrying a miswak with them to work or college, in order to freshen their breath as the day progresses. The dazzlingly white smile of the Miswak users is a witness to the fact that Nature can really excel in the field of dental care (2).

Today, Miswak (also known as Peelu) is commercially used as an effective ingredient for toothpaste for cleaning teeth, removal of plaque, disinfecting the mouth and refreshing the breath.

It has been claimed that toothpaste containing extracts of the plant, preserve the gums and the teeth in perfect health and give the latter a dazzling whiteness (3,4,5). Various other uses of the plant have been reviewed in literature (6).

THE MISWAK INGREDIENT - SCIENTIFIC RESEARCH

The choice of Miswak as a dentifrice and chewing stick is attributed to the plant’s chemical constituents and anatomical structure. A nineteenth century analysis showed that root bark contains 27.06% ash, large amounts of chlorine, and trimethylamine, an alkaloid, and a resin. In addition, further research has revealed it to contain silica, sulfur and vitamin C but negligible quantities of tannins and saponins. Accordingly, some of these components are useful to tooth cleaning (7).

The popularity of Salvadora persica (Salvadoraceae) throughout Africa and Asia is not consistent with the limited antimicrobial spectrum detected in aqueous extracts for oral organisms (8). It is possible however, that the enzymatic action of saliva on the isothiocyanates of this species can release unstable products that exert anti-microbial activity. Other factors in selection may be its high chloride content, which could remove tartar and other stains from the teeth, silica, which would act as an abrasive, a resin, which could form a coat over the enamel to prevent tooth decay, and Vitamin C, which would promote healthy gingivae (9).
Extracts of the plant have yielded sulfur as a major constituent and have shown anti-bacterial activity. In addition, pharmacological data indicates antibiotic, anti-inflammatory and hypoglycemic activity. Aqueous and ethanolic extracts of Miswak have been screened for broad range of pharmacological activities. The aqueous extract showed weak anti-inflammatory activity in a conventional foot edema test. The ethanolic extract showed mild hypoglycemic activity in glucose - loaded mice at 400 mg/kg. Both extracts were not toxic at doses up to 1200 mg/kg. Thus the use of Miswak by a large percentage of the population is certainly not harmful and may, due to several biologically active constituents, contribute to the prevention of dental caries(10).

Dental research has discovered interesting information about the Miswak. Chemicals analysis revealed that it contains a total of 19 natural substances which are beneficial to dental health. It’s natural antiseptics have a bactericidal action, killing harmful micro organisms in the mouth, the tannic acid it contains has astringent qualities which protect the gums from disease and its aromatic oils increase salivation. Because of its built-in antiseptics, the miswak needs no cleaning (2).

Research studies conducted by a Swiss Pharmaceutical Company and confirmed at Riyadh University, Saudi Arabia and Indiana University, Bloomington, USA, indicated that Miswak extract contains anti-bacterial substances which destroy the harmful germs in the mouth which cause gum infections and tooth decay(10), making it a ‘total’ care ingredient in a toothpaste.

**BENEFITS OF THE MISWAK INGREDIENT**

<table>
<thead>
<tr>
<th>Miswak constituents</th>
<th>Oral health benefits</th>
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<tbody>
<tr>
<td><strong>High chloride content</strong></td>
<td>Impact dentifrice properties to aid in removing tartar and other stains from the teeth.</td>
</tr>
<tr>
<td><strong>Silica by its mechanical action</strong></td>
<td>Helpful in tooth whitening.</td>
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<tr>
<td><strong>Resin</strong></td>
<td>May form a coat over the enamel, to protect against tooth decay.</td>
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<tr>
<td><strong>Trimethylamine</strong></td>
<td>May have a stimulatory effect on the gingivae.</td>
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<tr>
<td><strong>Vitamin C</strong></td>
<td>May help in healing spongy and bleeding gums.</td>
</tr>
<tr>
<td><strong>Sulphur compounds</strong></td>
<td>Bactericidal properties have been attributed to this.</td>
</tr>
<tr>
<td><strong>Isothiocyanates</strong></td>
<td>through the enzymatic action of Saliva it can release unstable products (Hydrogen peroxide) that exert anti-microbial activity and helps to prevent deposit Build up (8).</td>
</tr>
</tbody>
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Salvaroda persica - plant is much useful in preventing tooth decay and tartar (or calculus) build up. The effect is attributed to two mechanisms which seem to function independently.

1. Removal of tartar is because of mild abrasive silica and high chloride content (5).
2. Prevents tartar and plaque formation (deposit build up) mainly because of its anti-microbial activity which is produced only in the oral environment (8).
3. Provides protection to tooth enamel because of resin of plant which may form a coat over the enamel, to protect against tooth decay.

**BENEFITS OF MESWAK TOOTHPASTE**

* Aids in removing tartar  
* Removal of stains from the teeth  
* Tooth whitening  
* Protection against tooth decay  
* Stimulatory effect of gingiva  
* Helps in healing spongy and bleeding gums  
* Bactericidal properties

**REFERENCES**

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