

AWARENESS ABOUT OIL PULLING AMONG DENTAL STUDENTS

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ABSTRACT:

BACKGROUND:

Oil pulling generates antioxidants which damage the cell wall of microorganisms and kill them. These oils will attract the lipid layer of bacterial cell membranes and pulled to the oil. Furthermore, teeth become whiter; breath becomes fresher; and oral cavity muscles and jaws become stronger with excellent achievement of oral hygiene. Oil pulling prevents dental caries, gingivitis, oral candidiasis, and periodontitis from occurring, helps to reduce tooth pain, fixes mobile teeth, and achieves vigorous oral hygiene. Oil pulling when practiced regularly is believed to freshen and stimulate the mind and strengthen the senses. It is also beneficial in sore throat, dry face, impaired vision, taste loss, and anorexia. It also helps in improvement of conditions such as headaches, migraines, diabetes mellitus, asthma, and acne.

AIM:

The aim is to analyse about the awareness among dental practitioners on oil pulling.

OBJECTIVE:

This survey is done to analyse the awareness among dental practitioners on oil pulling.

MATERIALS AND METHODS:

A cross sectional survey was initiated from a randomly chosen population of 100 dental practitioners. A simple random sampling technique was used to identify the samples. Informed consent was obtained from the participants and confidentiality of the records were ensured. The survey was conducted using paper and pen method. The survey instrument used was a pretested questionnaire comprising of 10 questions eliciting responses pertaining to the awareness among dental practitioners on oil pulling.

Result: Overall, only 31% of the dental students were aware about oil pulling.

INTRODUCTION:

Oral health and general health of a person are interrelated.[1] practitioners of oil pulling used sunflower and sesame oils as a way to prevent bleeding gums, decay, dryness of throat, oral malodor, cracked lips and for strengthening teeth, gums and the jaw. In oil pulling, a tablespoon full of oil is taken and swished around the mouth in the early morning before breakfast and in empty stomach for about 20 min. In case of children greater than 5 years of age, a teaspoon of oil is used. The oil is swished between the teeth and gums. Mouth is thoroughly washed with saline water and tooth brushing is done.[1] Oil pulling should be ideally performed daily morning on empty stomach before brushing our teeth, and care should be taken that oil is not swallowed by mistake.[2] Swallowing of oil during oil pulling should be avoided as the oil contains bacteria and toxins which may be harmful for the body. It can be practiced thrice daily in empty stomach before meals to fasten the healing effects.[3] It is contraindicated for children below 5 years due to risk of aspiration. It takes a lot of determination on part the subjects to master this procedure and perform it on a regular basis. Unless and until the subjects are sufficiently motivated, Oil Pulling can be rarely voluntarily accepted. More over if the subjects are disabled, handicapped, its difficult for them to adopt this procedure.

The most wonderful part of Oil Pulling is that, it can be performed using any oil easily available at homes. Refined sunflower oil or any other cooking oil for that matter is a common house hold commodity in most of the Indian homes. Hence the material for oil pulling is easily accessible to most of the Indian population right at their homes. This is a therapy that can be practiced right at home, without any expenses, and has a huge storehouse of benefits.[4]

TYPES OF OIL PREFERRED:

Sunflower oil:

Sunflower oil is also known to be effective. It is high in the essential Vitamin E and low in saturated fat.[5] Ozonized sunflower oil (oleozon) showed antimicrobial activity against *S. aureus*, *Escherichia coli*, *Pseudomonas aeruginosa*, *Enterococcus faecalis*, *Mycobacterium spp.*, *Streptococcus pyogenes* and *C. albicans*. However, the activity might be due to the powerful oxidant properties of the ozone itself. Considering the antimicrobial effect of other oils, including corn oil, palm oil, rice bran oil and soybean oil, it was proposed that small amounts of saturated fatty acid, i.e. lauric acid, in these oils may play a role in their antimicrobial properties.

Sesame oil:

Sesame is a very old cultivated crop and thought to have originated in Africa. Chlorosesamone obtained from roots of sesame has antifungal activity. Sesame lignans have antioxidant and health promoting activities. High amounts of both sesamin and sesamol have been identified in sesame. Both sesamin and sesamol were reported to increase both the hepatic mitochondrial and the peroxisomal fatty acid oxidation rate. Sesame seed consumption appears to increase plasma gamma tocopherol and enhanced vitamin E activity which is believed to prevent cancer and heart disease.[6]

Sesame oil is found to be effective in reducing bacterial growth and adhesion. Toxins and bacteria from the body might be expelled through the tongue and trapped in the oil and removed from the body.

Sesame oil was demonstrated to have antibacterial activity against *Streptococcus mutans*.

It contains high amounts of unsaturated fatty acids. Linoleic acid and oleic acid are the predominant compositions. Oil-pulling therapy with sesame oil significantly reduced *S. mutans* counts in plaque and saliva of adolescents within 1 week.[7]

COCONUT OIL:

Coconut oil is an edible oil and is consumed as a part of the staple diet in many tropical countries.

Coconut oil is a highly desired and easily available oil in India. It is used in cooking and for its cosmetic properties. Coconut oil is different from most other dietary oils because the predominant composition of coconut oil is a medium chain fatty acid, whereas in the majority of other oils the basic building blocks are almost entirely long chain fatty acids. This influences the physical and chemical properties of the oil. Coconut oil contains 92% saturated acids, approximately 50% of which is lauric acid. Human breast milk is the only other naturally occurring substance with such a high concentration of lauric acid.

Lauric acid has proven anti-inflammatory effects and antimicrobial effects.[8]

MATERIALS AND METHOD:

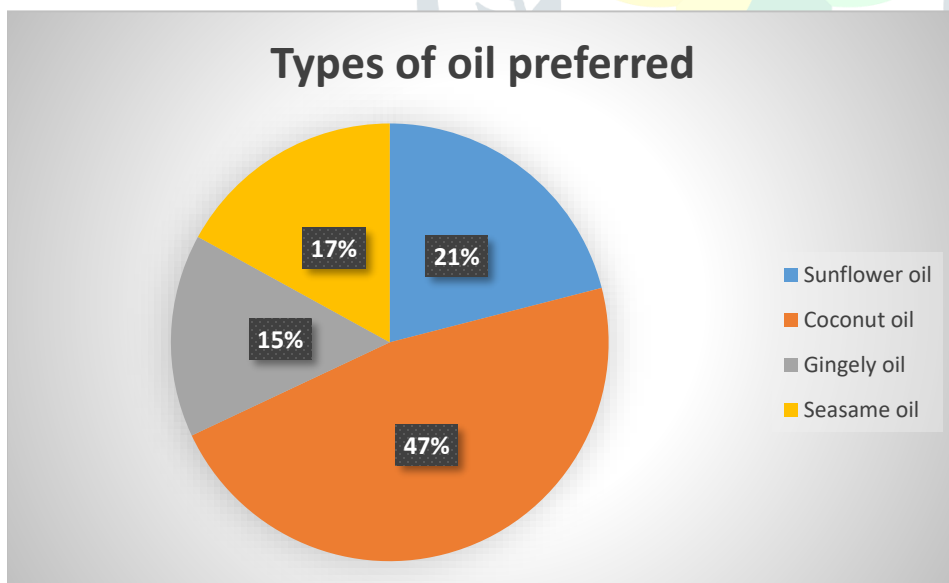
A cross sectional survey was initiated from a randomly chosen population of 100 dental practitioners. A simple random sampling technique was used to identify the samples. Informed consent was obtained from the participants and confidentiality of the records were ensured. The survey was conducted using paper and pen method. The survey instrument used was a pretested questionnaire comprising of 10 questions eliciting responses pertaining to the awareness among dental practitioners on oil pulling.

The questions include,

1. Are you aware about the term oil pulling ?
2. Do you know about the method of oil pulling ?
3. Do you educate your patient to do oil pulling ?
4. Types of oil preferred ?
5. Can oil pulling reduce the risk of dental caries
6. Are you aware about Any side effects of oil pulling ?
7. Does oil pulling reduce the risk of gingivitis and halitosis?
8. Are you aware about the mechanism of action in oil pulling?
9. Can oil pulling be a supplemental aid in a daily oral hygiene regimen ?
10. Do you suggest oil pulling over mouthrinses ?

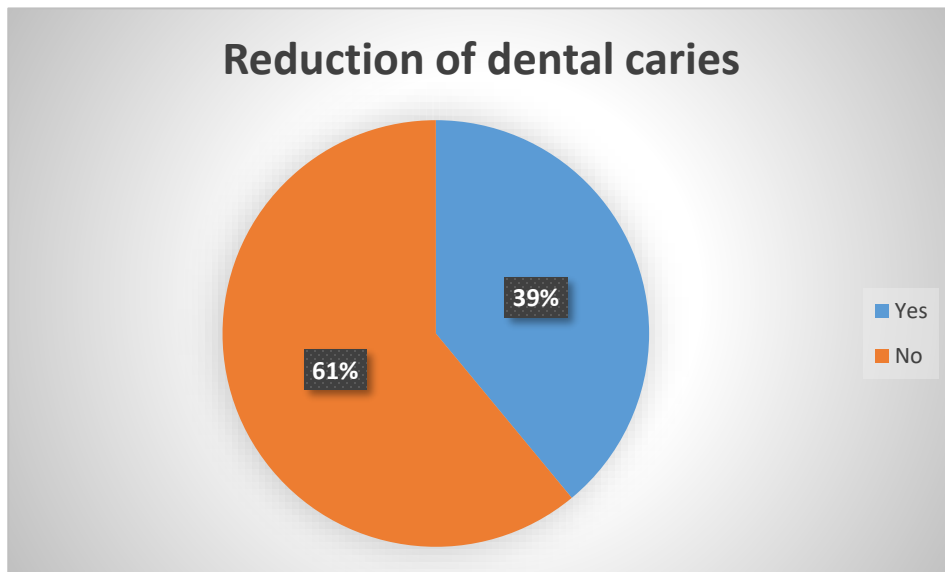
RESULTS AND DISCUSSION:

The data obtained were statistically analyzed using pie charts. Almost 47% of people are using coconut oil and it is the most commonly used oil since it is easily available and harmless. Coconut oil has high saponification index. It contains lauric acid which can react with alkalis present in saliva such as sodium hydroxide and bicarbonates to form sodium laureate-soap like substance, which reduces plaque adhesion and accumulation and possesses cleansing action. The second most commonly used oil was sunflower oil. (chart 1).

CHART 1

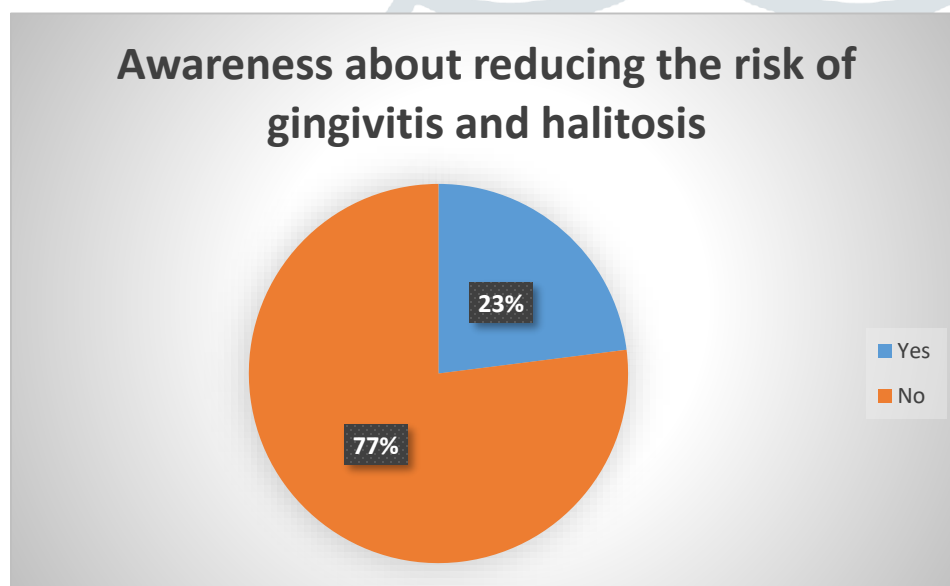
It was found that most of the people are not aware about the oil pulling. About 61% of the participants were not aware of oil pulling benefits in dental caries (chart 2)

CHART-2



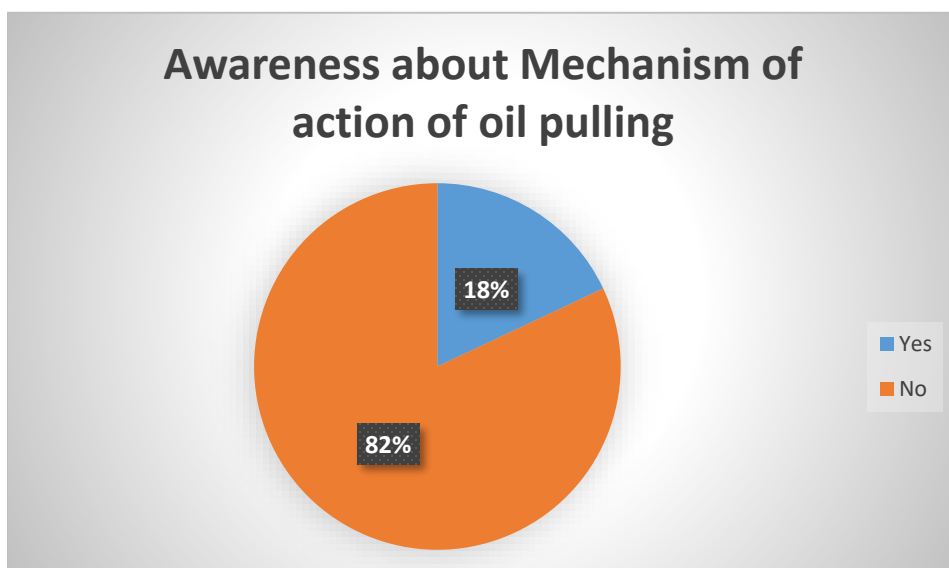
Almost 77% of participants felt that oil pulling cannot reduce gingivitis and halitosis (chart 3). Bacteria present under the gums and in tubules within the teeth are removed out of their hiding places[9,10] and held firmly in the milky solution. Thereby, it reduces the risk of plaque and caries. From the study, it was found that the side effects of oil pulling are almost negligible. Only 31% of the people observed side effects such as nausea and headache

CHART-3



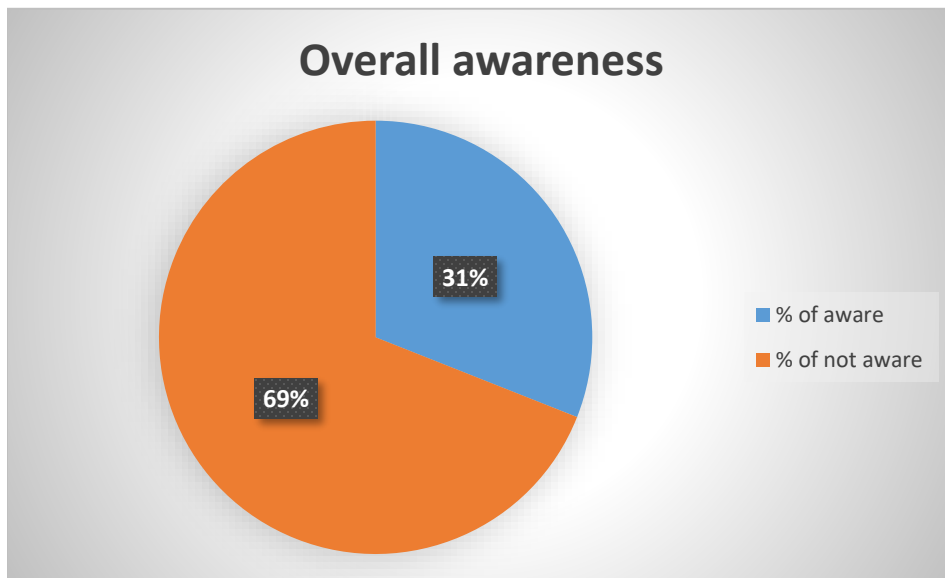
About 82% of participants are not aware about mechanism of action about oil pulling . (Chart 4)

CHART-4



Overall , only 31% of the dental students were aware about oil pulling.(chart 5)

CHART-5



Anyone with anybody constitution can do oil pulling. Ideally, it should be done in morning and evening after you brush. It is not only limited to oral health. The ancient Ayurvedic texts talk about the benefits of oil pulling for migraines, shoulder pain, neck pain, headache, graying of hair, and cataract. Basically, it benefits all regions above the neck region. It is the combination of saliva and oil together that creates the magic potion.

EFFECT OF OIL PULLING ON DENTAL CARIES:

Dental caries is a complex multifactorial disease caused by interaction of host, agent, substrate, and time. Oral microorganisms present in dental plaque are considered crucial for the initiation and progression of dental caries. These microorganisms include *S. mutans*, *Streptococcus sobrinus*, lactobacillus species, actinomyces species, nonmutans streptococci, and yeast. Loesche claimed that *S. mutans* is the chief pathogen in dental caries [11]. The mechanism by which oil pulling therapy causes plaque inhibition and reduction in *S. mutans* is not known. The viscosity of the oil could probably inhibit bacterial adhesion and plaque coaggregation. Other possible mechanism might be the saponification or the 'soap-making' process that occurs as a result of alkali hydrolysis of fat. Sesame oil is a vegetable fat and when acted upon by salivary alkalis like bicarbonate, the soap making process is initiated. Soaps are good cleansing agents because they are effective emulsifiers. Emulsification is the process by which insoluble fats like sesame oil can be broken down into minute droplets and dispersed in water. Emulsification greatly enhances the surface area of the oil, thereby increasing its cleansing action [12].

EFFECT OF OIL PULLING ON GINGIVITIS AND HALITOSIS:

Oil Pulling has the ability to reduce plaque and gingivitis. It emerges from one of the study that an individual is able to maintain low levels of plaque and gingivitis even if he is performing Oil Pulling, just for 45 days [13].

The terms halitosis, breath malodor, or bad breath are used to denote unpleasant breath odor. These terms are not synonymous with oral malodor, which has its origin only from the oral cavity. Halitosis should not be confused with odor associated with food intake, smoking, or morning breath on awakening.

Oil pulling therapy has been equally effective like chlorhexidine against halitosis and organisms which are associated with halitosis. Sesame oil has the following advantages over chlorhexidine: no staining, no lingering after taste, and no allergy. Sesame oil is five to six times cost-effective than chlorhexidine and is readily available in the household. There are no disadvantages for oil pulling therapy except for the extended duration of the procedure compared with chlorhexidine [14].

SIDE EFFECTS OF OIL PULLING:

People allergic to specific oil should use other types of oil compatible with them. Sesame oil does not have side effects like staining, lingering aftertaste, and allergy. Oil pulling has also been claimed to cure several diseases such as arthritis, allergies, asthma, migraine headaches, nerve paralysis, kidney and heart disorders etc, though it is not scientifically proven. However it certainly has positive benefits on oral health. Care should be taken that oil is not swallowed as it is heavily loaded with toxic microorganisms. However if accidentally small amounts of oil is swallowed, there is nothing to worry as the same is removed from the body through feces [15].

ADVANTAGES OF OIL PULLING:

What makes this method so exciting and innovative is that it is extremely simple to practice, no buying of complex products, mixing products like an alchemist or taking zillions of supplements. Other advantages of oil pulling over commercially available chemical preparations include- it does not cause staining of teeth, it does not leave behind a lingering taste and also does not result in allergic reactions [16].

PRECAUTIONS:

Do not swallow, however, inadvertently if you swallow, there is nothing to worry. It will go out through motion if not digested. Do not spit where people walk or on vegetation. You can spit in the toilet and flush it. If you are allergic to a particular brand, change the brand of oil or to different oil. Make sure the oil is good and refined. Keep chin up so that pulling covers the back of the oral cavity and the molar teeth. For children of 5 years and above, only one teaspoon full (5 mL) of oil will do [17].

CONCLUSION:

Oil pulling is observed to bring improvement in oral hygiene when practiced correctly and regularly. Limited available research on effect of oil pulling on oral hygiene shows promising benefits of oil pulling procedure on oral cavity. However oil pulling does not replace dental therapy and is currently not recommended by American dental association.³⁵ Extensive research on the role of this traditional, cheap and valuable remedy should be encouraged without bias. Based on currently available research it can be concluded that oil pulling when performed as recommended, can be safely used as an adjunct to maintain good oral hygiene and health along with the routine tooth brushing and flossing with promising positive results [18].

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