Many states in India have decided to Ban Gutkha
But do you know
supari in other forms is also harmful???

Beware of Areca nut

For more details please visit
www.arecapedia.com

Issued in public interest for areca nut (supari) awareness

- Compilation -

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Areca nut is the seed of the palm tree Areca catechu, which is the fourth most commonly used psychoactive substance, after caffeine, nicotine, and alcohol. Because areca nut was always consumed with the leaf of Piper betle, chewing of areca nut has always been referred to as “betel nut chewing” in the English literature. There is an estimated 600 million people chewing betel nut worldwide. It is a common habit and is a means of social interaction in Asia, particularly the South Pacific islands, Southeast Asia, Papua New Guinea, Bangladesh, Pakistan, and India.

Countries where Areca nut and Betel leaf consumption is either prevalent or part of the local tradition

Areca Nut is not prevalent in developed countries so awareness level is very little. It is banned/ restricted in many countries like Canada, USA, UAE etc.
Pan masala is basically a preparation of areca nut, catechu, cardamon, lime and a number of natural and artificial perfuming and flavouring materials. Gutkha is a variant of pan masala, containing tobacco along with cocktail of carcinogens and additives like magnesium carbonate, phenyl ethyl alcohol and harmful perfumery compounds like musk ketones and other injurious fragrance compounds. Both products are often sweetened to enhance the taste.

Promoted by a slick, high profile advertising campaign and aggressive marketing, pan masala and gutkha have become very popular with all sections of Indian society, including school children. For most children, teenagers and women, cigarette smoking, chewing tobacco still remains taboo in India. But Gutkha and Pan Masala are often advertised as mouth fresheners, leading to a much higher frequency of use, so that these younger chewers constitute an alarming avant garde for a new epidemic of oral cancer.

Areca nut primarily consists of Alkaloids like arecoline, arecaidine, guvacine and guvacoline, polyphenols (Flavonols and tannins) and Betel nut specific nitrosamines (mainly Saffrole) as its main constituents, which is primarily carcinogenic.

Gutkha and pan masala, the areca nut based products are typically consumed throughout the day. A number of small surveys conducted in schools and colleges in several states of India have shown that 13–50% of students chew pan masala and gutkha on a regular basis. A survey done by Indian Dental Association (IDA) found that 10% to 14% of school students and 70% of college going students in Mumbai chew gutkha and pan masala.

**Attractively packed pan masala but dangerous inside!**

- Areca Nut (More than 80%)
- Gambier / Katha (8 to 10%)
- Magnesium Carbonate
- Heavy metals like Lead, Cadmium, Chromium, Arsenic, Copper & Nickel
- Many more undisclosed chemicals & compounds which are not safe even in toiletries

Ref: http://www.martinfrost.ws/htmlfiles/gutkha.html
Health hazards of Areca nut

Betel nut chewing has been linked to a variety of health problems including:

1. **Oral Precancers & Cancer** :-
   Areca nut plays an important role in the causation of precancerous lesions such as leukoplakia, oral submucus fibrosis etc. Upto 20% of these pre-cancers may convert into cancer over period of several years. Oral submucus fibrosis is a crippling, irreversible condition of the mouth with no effective treatment available till date. Based on a systematic review of all published literature, International Agency for Research on Cancer reported that Areca Nut Chewing is strongly associated with oral cancer (IARC monograph).

2. **Other cancers** :-
   Areca nut chewing has been shown to be associated with development of cancers of various organs like liver, esophagus (food-pipe), stomach, lung, cervix.

3. **Dental and Periodontal health** :-
   Areca nut act as an abrasive for teeth and tends to wear off the tooth surfaces and cause fracture in chronic chewers. That also tends to cause recession of gums and abrasion of the exposed root surfaces. The regular use of areca nut stains the mucosa, gums, and teeth. It also causes damage to enamel making the teeth very sensitive to heat and cold.
4. Diabetes mellitus, hypertension and Obesity:-
In the community screening, a close relationship between areca nut chewing and diabetes has been reported. It also impairs blood sugar levels in those taking treatment of diabetes mellitus. Areca nut chewing is considered as a risk factor associated with general and central obesity for males. The obesity, in turn, may indirectly lead to several systemic diseases such as diabetes(type -2 DM), heart diseases like hypertension.

5. Psychological & Nervous system disorders :-
Areca nut is not only addictive but also associate with several psychological disorders. It is also known to complicate certain pre-existing psychiatric illnesses. Several studies have shown direct effect of Areca Nut on central and autonomic nervous system. Some of these activities are responsible for areca nut addiction.

6. Effect on various body systems :-
Areca nut has deleterious effects on gastric mucosa causing ulceration. Arecoline is reported to cause bronchoconstriction in asthmatic patients. Thyroid Hormone level, calcium metabolism, Vitamin B12 levels, cholesterol metabolisms, excretion and appetite, all are adversely affected with chronic areca nut usage. Studies have shown formation of parotid tumors in animals fed with areca nut.

7. Reproductive Health & infertility :-
Studies have shown that arecanut causes anti-ovulatory and abortifacient effects also affecting sex ratio at birth, causing lower birth weight and reduced birth length. An in vitro study showed that areca nut extract decreases sperm mobility.
Oral cavity and Areca nut

Data from many recent epidemiological studies provide overwhelming evidence that areca nut is the main aetiological factor for Oral Submucous fibrosis (OSMF). Almost all are attributed to areca nut usage with or without smokeless tobacco. Oral submucous fibrosis (OSMF), first described in the early 1950s, is now classified as potentially malignant disorder of oral mucosa (PMD), predominantly seen in people of Asian descent. It is a chronic progressive disorder and its clinical presentation depends on the stage of the disease at detection. The majority of patients present with an intolerance to spicy food, rigidity of lip, tongue and palate leading to varying degrees of limitation of opening of the mouth and tongue movement. The hallmark of the disease is submucosal fibrosis that affects most parts of the oral cavity, pharynx and upper third of the oesophagus.

Many epidemiological data indicates that, the number of cases of OSMF has risen rapidly in India from an estimated 2,50,000 cases in 1980 to 2 million cases in 1993. The reasons for the rapid increase of the disease are reported to be due to an upsurge in the popularity of commercially prepared areca nut preparations (pan masala & gutkha) in India and an increased uptake of this habit by young people due to easy access, attractive prices and marketing strategies.

In a recent study, a clear dose-dependent relationship was observed for both frequency and duration of chewing areca nut (without tobacco) in the development of OSMF. The severity and the time taken for the development of the disease may also vary according to the preparation of areca nut consumed. The commercially freeze dried products such as pan masala, Gutkha and mawa (areca and lime) have high concentrate of areca nut per chew and appear to cause OSMF more rapidly than by self prepared conventional betel quid which contain smaller amounts of areca nut. Pan masala, Mawa, Gutkha and such preparations have resulted in Oral Submucous Fibrosis(OSMF) in 2-3 yrs of chewing. Oral Submucous Fibrosis has a malignant potential of 2.76% to 7.4% and reported upto 25% in South Indian population where areca nut use is high.
Oral Cancers from chewing Areca nut preparations are almost always preceded by Pre-cancer lesions.

- Pan masala, Mawa, Gutkha and such preparations have resulted in Oral Submucous Fibrosis (OSMF) in 2-3 yrs of chewing
- Betel Quid has shown to give rise to OSMF in 8-11 yrs of chewing.
- Oral Submucous Fibrosis has a Malignant potential of 2.76% to 7.4%

Prevention is the only effective treatment till date for OSMF

Pathogenesis of oral submucous fibrosis

It is logical to hypothesise that the increased collagen synthesis or reduced collagen degradation as possible mechanisms in the development of the disease.

**Areca-Nut/ Supari is Rated as Group 1 CARCINOGEN by IARC monograph**

Pathogenesis of Oral submucous fibrosis

Overall effect of activated TFG-β pathway. There is an increase in collagen production and cross-linking (insoluble form) along with a decrease in collagen degradation. This produces an increased collagen deposition in the subepithelial connective tissue layer of the oral mucosa leading to OSF.

Net result is fibrosis and results in oral submucous fibrosis:

Current treatment strategies provided for oral submucous fibrosis.

Possible therapeutic interventions for OSF. Some of the possible interventions suggested based on the pathway involved include: (1) blocking the chronic inflammatory process by anti-inflammatory/immuno-modulatory drugs; (2) blocking TGF-β action by anti-TGF-β antibodies or peptide mimetics of soluble TGF-β receptors (3) copper chelators like penicillamine to block LOX activity and prevent cross-linking; (4) other anti-LOX drugs that prevent its action; (5) collagenase activators like colchicine to promote collagen degradation. Probably a combinational therapy of the above mentioned drugs thereby intervening at multiple points along the pathway might be useful for the successful treatment of OSF.

Experts Speak

Dr P C Gupta,
Director Research of Healis-Sekhsaria Institute for Public Health

Areca nut use is a practice of great antiquity dating back to 2,000 years. It is currently prevalent in the countries of South Asia, Myanmar, Thailand, Indonesia, Laos, Cambodia, Vietnam, Papua New Guinea, Taiwan, southern part of China and large number of islands in Pacific Oceans. It is also used by the migrant populations from the Indian subcontinent in parts of Europe, Africa and Americas. Its use seems to be common among men as well as women. It has been clearly established that areca nut is carcinogenic. The comprehensive data are available in the volume 85, published in 2004 of IARC Monograph on the Evaluation of the Carcinogenic risks of Chemicals to Humans that is on Betel quid, Areca nut Chewing. It was evaluated that evidence of carcinogenic activity was sufficient for areca nut.

Despite this very clear and ambiguous evaluation by the most authoritative scientific body in the world, it is explicable that there are no control strategies on the use of areca nut. There are no restriction on adding of areca nut to the food items or control strategies on advertisement and promotion of areca nut products. **Areca nut is added to every Pan Masala that is sold in the country.** These Pan Masala are advertised in all print media, outdoors and on electronic media. These advertisements, marketing and promotion strategies are specifically targeted to youth. As a result the use of these products among youth has become extremely high and as a result, there is a near **epidemic of submucous fibrosis in mouth caused by the use of areca nut by these young persons in India.** There are also reports of increasing number of mouth cancers in the young generation in India. It is high time that well thought out control programme was formulated and implemented against the use of areca nut in the country.

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“The Indian policy makers and public at large needs to wake-up to handle this issue on an emergency basis. The Government of India should not only work towards a law to regulate this product but also initiate a comprehensive National Areca Nut Control Program to save millions of Indian. To begin with, a strong pictorial health warning or at least a textual statutory warning should be made mandatory on all such products. **Even in absence of such a law, it is the responsibility of the manufacturers to inform their patrons about the hazardous nature of their products.** In addition, there should be a ban on advertising (direct and indirect) of this product, ban on sale to minors, impose restriction on chewing in public place/work place and spitting should invite big penalty. The California Environment Protection Agency has listed Areca nut as carcinogen and a hazardous product. Taiwan, the land of famous scantily dressed "betel nut beauties" selling betel nut and tobacco product on roadside, have realized the problem and are doing much better than us. Taiwan Government has cracked down on the "betel nut beauties", offering subsidy to farmers for growing alternative crops and engaged in Betel Nut Control Program, long back. On October 8, 2009 Taiwanese Bureau of National Health Insurance announced the plan to impose health tax on betel nuts. Canada has already banned sale of Areca nut products. US FDA has issued an import alert and banned interstate traffic of areca nut. **India is yet to make a visible beginning!”**

Areca nut is the fourth commonest psycho-active substance used by the humankind. The first three are: Caffeine that is found in coffee, tea and cola beverages; Alcohol that is present in all alcoholic drinks; and, Nicotine that is found in all tobacco products used for smoking and in smokeless form. Compared to other three substances, areca nut has hardly received any attention from public health as yet.


23. http://sites.google.com/site/quitnut


Beware of such advertisements. These advertisements give an impression that pan masala is safe as it does not contain tobacco or Magnesium Carbonate. However, the fact is that the major component is areca nut (supari), which is harmful.

Switching to supari/pan masala from tobacco is like jumping from frying pan to fire.

For any queries please contact: cancer.prevention@yahoo.com