

## International Experts Urge for Areca Nut (Supari) Control to Curb Rising Burden of Oral Cancer

On Thursday, 1<sup>st</sup> February 2018, a symposium on arecanut was held at Healis Sekhsaria Institute for Public Health. Three speakers were visiting from the United States, where arecanut use is becoming more common due to Indian exports, and four speakers were based in India.

Dr. Prakash C. Gupta, senior epidemiologist and Director of Healis Sekhsaria Institute for Public Health, spoke on the epidemiology of areca nut and smokeless tobacco. Areca nut is used in many different forms – as an ingredient in betel quid, in industrially manufactured items including gutka and pan masala, in cut, sweetened and flavoured form and in raw form. The use of areca nut causes a serious, debilitating, precancerous disease – oral submucous fibrosis (OSF). In India, areca nut use is concomitant with the use of tobacco. In addition to causing oral cancer, areca nut may cause several other cancers. It plays an important role in causing death from heart disease, lung disease and tuberculosis. If used by pregnant women, it causes low birth weight, reduced gestational period, increased still births and anaemia. There are indications that areca nut, even when used without tobacco, would cause similar health effects. The pattern of time interval before the first use in morning, which is an important measure of dependency, is similar whether areca nut is used with tobacco or without tobacco. Currently an epidemic of mouth cancer among young persons is growing at an explosive rate entirely due to gutka/panmasala-tobacco use. Strong control measures are required for areca nut, just like for tobacco.

Dr. Samir Khariwala, Associate Professor, Chief, Division of Head and Neck Surgery, Dept. Otolaryngology-Head and Neck Surgery, University of Minnesota, spoke on the oral diseases seen in arecanut chewers. He said areca nut is implicated in a variety of oral disease processes. OSF is the severe scarring of the inner cheek and palate occurring in areca nut users. Patients suffer great pain and are unable to open their mouths. In addition, the more often areca nut is used (with or without tobacco), and the longer the duration, the higher the risk of mouth cancer. Those using areca nut products daily have an extremely high risk of mouth cancer in their lifetimes. Many areca nut users will die of mouth cancer while others must have extensive surgery to remove portions of their tongue, cheek and palate. This is why arecanut needs to be controlled.

Mrs. Cecily S. Ray, Former Senior Scientific Officer, Healis Sekhsaria Institute for Public Health, spoke on agricultural and economic policies on areca nut in India. Arecanut has been a focus of agricultural policy intervention in India since 1951 along with several other crops, including tobacco, cotton and food grains, as a part of the broad goal of economic development. As erstwhile East Bengal earlier supplied half of India's demand, India began to increase arecanut production to avoid imports. By 1965, India became self-sufficient in arecanut. In the mid-1970s pan masala came on the market and demand for arecanut soon began to rise. Then after 1985, when pan masala and gutka came out in single portion packets and became increasingly popular, demand for arecanut increased more rapidly. To meet the demand, from 1995, this new industry began to import low cost arecanut, skewing the market and reducing remuneration to farmers. During 1961 through 2016, arecanut production increased fivefold while area under cultivation increased

threefold. In 2011, a report submitted in Parliament stated that nearly 80% of the arecanut produced was going into the manufacture of gutka. By 2016 manufacturers were exporting pan masala/gutka to 45 countries (without health warnings). The growth of this industry has had adverse consequences, not only to public health, but also to the environment – degradation of the forest and depletion the water table in non-traditional growing areas, apart from discarded plastic packaging on the roads. In 2012, two studies reported that arecanut cultivation had become unremunerative. With health policies in place and arecanut imports increasing, arecanut production is likely to remain unremunerative. The only real winners would now seem to be the gutka manufacturers who export and those who dare to sell illegally in packets bearing neither content labelling nor health warnings. The informal economy is now promoting similarly dangerous products - mawa and kharra. A holistic policy solution is needed to end this losing situation for farmers, consumers, and the environment. In 2011 some Indian farmers suggested switching areca nut crop but requested government subsidies. In Taiwan, replacement of arecanut plantations is happening for health considerations with government support

Dr. Pankaj Chaturvedi, Professor and Surgeon, Tata Memorial Hospital, Mumbai, and founder of Voice of Tobacco Victims (VOTV) spoke on the health policies in force and still needed for arecanut in India. While the Cigarettes and Other Tobacco Products Act, 2003 (COTPA), regulates tobacco products, that include arecanut products containing tobacco, there is no regulatory framework on arecanut products as such. Only simple health warning, usually in English in small print, is placed on manufactured arecanut products not containing tobacco. Legislation is needed to get more effective warnings including graphical, on arecanut products. Policy makers need to be sensitized to these issues. Voice of Tobacco Victims had successfully advocated with the Health Ministry for enforcing the bans on manufacture and sale of gutka and pan masala under the Food Safety and Standards Act (FSSA), 2006, amendments to the COTPA; also with the Finance Ministry for raising taxes on tobacco products. To do this, VOTV doctors wrote letters to ministers at state and union levels, including the Prime Minister, met elected politicians and introduced them to tobacco victims suffering from cancer. The FSSA is the only law with which an unsafe product consumed by mouth can be banned. Under the FSSA, if a food contains an adulterant, which makes the food unsafe, or misbranded it can be banned. In that law, “risk”, in relation to any article of food, means the probability of an adverse effect on the health of consumers due to a food “hazard” - a harmful biological, chemical or physical agent in, or condition of food. Oral cancer and OSF, etc. are diseases caused by unsafe foods. The FSSA, which is approved by Parliament and notified by the President of India, must be applied and enforced on arecanut products.

Dr. Irina Stepanov, Associate Professor, Division of Environmental Health Sciences, Masonic Cancer Center, University of Minnesota, spoke on the toxic and carcinogenic potential of arecanut. She said toxic and cancer-causing chemicals present in areca nut-containing products are responsible for the devastating health outcomes associated with their use. Some of these chemicals are naturally present in areca nut, and some are introduced when areca nut is processed or when products like betel quid, gutka or pan masala are made. Because of the large variety of areca nut products and the lack of proper regulation of their content, there is a huge variation in the levels of toxicants and carcinogens across different products. Storage conditions can also affect the levels of many such chemicals. Therefore, even the same product purchased from different vendors can contain different levels of carcinogens implying that users may be exposed to very high levels of

harmful chemicals without them suspecting anything about it. Control measures aimed at areca nut products should include regulation of product contents and education of consumers and health professionals.

Dr. Roger L. Papke, Professor of Pharmacology & Therapeutics at the University of Florida College of Medicine and a recognized expert in the field of brain nicotine receptors, said that the copious stimulation of saliva in areca nut users is due to the presence of *arecoline*, a mimic for acetylcholine, the “rest and digest” hormone of the autonomic nervous system in humans. Areca use is well documented to be addictive and a health hazard, prompting the question as to whether these effects are also due to arecoline. Dr. Papke said that arecoline is a weak activator of the same brain receptors that cause nicotine addiction, suggesting a link between the two addictions. Dr. Papke believes that the nicotinic receptor activity of arecoline primes arecanut users for the addicting effects of nicotine, encouraging the addition of tobacco to areca nut products. He explained that this leads to dependence although other receptors may also be involved. Areca users variously report that they perceive areca as being a stimulant, like coffee, or a sedative, like alcohol. Dr. Papke opined that these effects may be associated with previously unidentified compounds in areca. Nonetheless, since the most insidious link to addiction, which leads to withdrawal symptoms, comes from nicotine-like activity, treatments for areca addiction may be similar to those for nicotine addiction such as replacement therapies. He suggested further work on finding out a safe arecoline substitute.

Dr. Himanshu Gupte from Narotam Sekhsaria Foundation spoke of their experience of working with 13-15 year old school children in Mumbai under their Life First program focusing on de-addiction. He reported that most children start with using areca nut products, especially sweetened and flavored areca nut pieces but many graduate to using those along with tobacco. After that cessation becomes much more difficult. Policies were needed to protect children from harms of areca nut.