



**Research Article**

**IMPACT OF ' ARECA NUT AWARENESS' MODULE ON MIDDLE SCHOOL CHILDREN**

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**ABSTRACT**

Areca nut and Tobacco are known carcinogen and addictive agent. Areca nut causes oral submucous fibrosis, a premalignant condition which worsens patient's life. School is a key location for children to educate regarding health, nutrition, hygiene. Increased addiction to areca nut necessitates introducing education of addiction ill effects at an early age.

**Aim:** To evaluate the effect of areca nut awareness module on school children.

**Method:** This cross-sectional, interventional study was initiated after approval from Institutional Ethics Committee. All the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> standard students who fulfil the inclusion criteria were included in the study by convenience sampling.

Prevalidated knowledge (K) and attitude (A) questionnaire was distributed in students. Then students were intervened using prevalidated areca nut awareness module. Post interventional KA questionnaire assessment was done after 4<sup>th</sup> week.

The analysis was performed using SPSS version 20.0 (IBM Corp.) software.

**Conclusion-** Knowledge was found to be increased but not attitude. To change the attitude similar such workshops are needed.

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**INTRODUCTION**

Oral cancer is one of the leading causes of death in India. After tobacco, alcohol and caffeine, betel nut is largely cultivated and consumed in south east nations.<sup>1,2</sup> The areca palm (Areca catechu; Family: Palmaceae) is a plant long upto 15 m and crowned with 7-10 palm fronds.<sup>3</sup>

Have you ever seen any Hindu Puja without Supari? Lord Ganesha, god of wisdom is also replaced by this Areca nut as 'Suparicha Ganapati'. Think of any ceremony may it be birth, marriage or death areca nut has occupied the prime role. It is chewed either alone or commonly with betel leaf as betel quid. Gutkha or kharra are also preparations of areca nut with tobacco and other harmful agents. Areca nut commonly called 'Supari'. Areca nut is a carcinogen and addictive agent. These are produced and consumed by large population of India. Areca nut causes a debilitating premalignant condition, oral submucous fibrosis.<sup>3,4</sup>

Due to increased number of OSMF, it becomes necessary to introduce education of addiction and ill effects of areca nut to students at young age.<sup>5</sup> Intervention at early age may have an advantage of reducing the cases of addiction.

**Aim and Objectives**

The aim of study was to assess and compare knowledge & attitude regarding areca nut in school children before and after the introduction of areca nut awareness module.

**METHOD**

This cross sectional interventional study was commenced after approval from 'Institutional Ethics Committee'. The target school for implementation of project was identified and the consent from the school authority and parents was obtained. All the 4<sup>th</sup> and 5<sup>th</sup> standard students who fulfil the inclusion criteria were included in the study by convenience sampling.

**Inclusion criteria**

- Students of 4<sup>th</sup> and 5<sup>th</sup> standard.
- Students with regular attendance.
- Students those can read, write and understand Marathi language.

**Exclusion criteria**

**Students not willing to participate in the study.**

Prevalidated K (knowledge) and A (Attitude) questionnaire was distributed in students. Each item in the questionnaire was read by the researcher and children were asked to choose

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answer. It took approximately 5-10 minutes to complete the questionnaire.

Then students were intervened using prevalidated areca nut awareness module. Module was designed in a manner so as to provide the scientific knowledge about areca nut and its ill effects on health. Post interventional KA Questionnaire assessment was done after four weeks.

## RESULTS AND STATISTICS

The effectiveness of counselling on knowledge and attitude was determined using non-parametric test Wilcoxon signed rank test. All the analyses was performed using SPSS ver 20.0 (IBM Corp.) software and the statistical significance was evaluated at 5% level . There were seven questions about knowledge and four about attitude of areca nut.

### Knowledge related questions were as follow

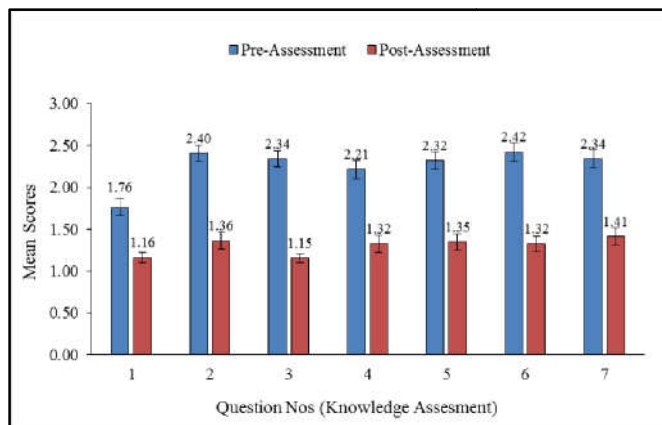
1. Areca nut (Supari) is present in various forms like mukhwas, mithi supari, kharra, gutkha , betel quid (pan).
2. Areca nut use may develop into habit.
3. Areca nut causes ill effects on whole body.
4. Areca nut chewing can cause burning and stiffness in oral cavity and throat and can cause reduced mouth opening.
5. Areca nut chewing can cause stains on
6. teeth and wearing of teeth.
7. Areca nut is carcinogenic and causes oral cancer.
8. Areca nut can affect person of any age

### Attitude related questions were

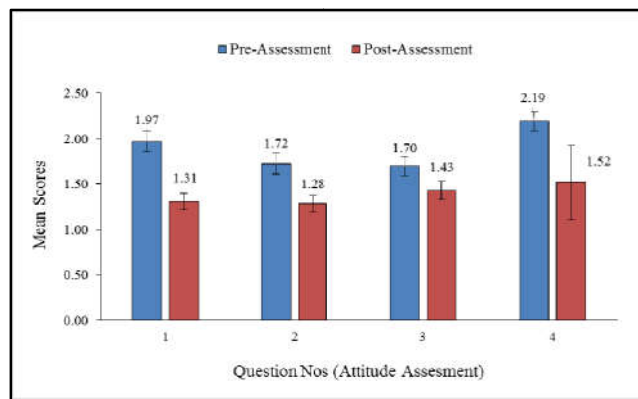
1. Do you think after areca nut use person may feel energetic ?
  2. Do you think areca nut helps in digestion ?
  3. Do you think areca nut chewing habit helps person in social acceptance among peers ?
  4. Do you think areca nut chewing habit may initiate use of other addiction substances like tobacco, alcohol ?
- Students' reply were noted as - 1- YES 2-DON'T KNOW, 3- NO

## RESULTS

The mean age of student was 11years. Knowledge and attitude assessment regarding areca nut before and after intervention as mean scores for each question is shown in graph 1 and 2 respectively. The students level of knowledge has increased after intervention while the attitude did not change.



Graph 1 Pre and post intervention knowledge assessment.



Graph 2 Pre and post intervention attitude assessment.

## DISCUSSION

Areca nut is a seed of palm *Areca catechu*, primarily consists of alkaloids like arecoline, arecaidine, guvacine and guvacoline.<sup>4</sup> It is used by large population of India and South East nations. Areca nut is group I carcinogen but people are not ready to accept the carcinogenic and addictive potential of areca nut. Areca nut plays an integral part in religious, social and cultural functions and so, found in almost every house and available at every small shop.

Several small surveys conducted in school throughout shows 13-50% students chew supari alone or as pan masala or gutkha.<sup>6</sup> The start of their habit is from home. School based areca nut interventions are scarce, and are mostly with tobacco.<sup>7</sup>

The present study was carried out to determine knowledge and attitude about areca nut in children before and after intervention. The present study showed that the students were not aware about areca nut's harmful effects and after intervention they showed increased knowledge. Attitude regarding areca nut did not change even after intervention suggested the need of repetition.

On similar grounds of the present study, Sukla S (2016) noted 21% improvement in knowledge and attitude in 11<sup>th</sup> and 12<sup>th</sup> standard students towards gutkha chewing after and educational approach.<sup>8</sup> Wali A. *et al* (2016) showed lack of knowledge and attitude about areca nut, gutkha and tobacco smoking among school children of age 12 to 18 years.<sup>1</sup>

Many researchers documented an upsurge of OSMF and oral cancer due to increased consumption of areca nut. There is increased in the prevalence of these lesions in children and young adults.<sup>9,10</sup> Impact of social media and effect of bollywood personalities , cheap cost, easy availability, consumption by almost every family member may be the reason of their lack of knowledge. While the religious value and the so called medicinal value might be the reason of unaltered attitude towards areca nut. Similar to present study, Raina R *et al* (2015) determined 94.4% of study group were aware about the harmful effects of tobacco use among 13-15 year old school children, while 92.2% had negative attitude.<sup>11</sup>

As per the protocol of deaddiction, any habit can be revert back easily if interventions done at an early stage than later. In the present study ,students were intervened by educational module regarding areca nut and their knowledge has shown significant increase similar to Chen G *et al* (2018).<sup>12</sup> Goyal

and Bhagwati (2016) strongly recommend the pictorial warning on areca nut products.

So, students should be educated at an early age about areca nut, tobacco, and similar such addictive agents so as to prevent addiction in them

## CONCLUSION

Awareness in school children regarding areca nut can be increased by educating them but to change attitude, community based awareness programs are needed.

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