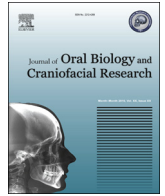




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Original Article

Prevalence of areca nut chewing habit among high school children of Parsa district of Nepal

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ABSTRACT

Aim: Consumption of areca nut products among school going children has become very common social evil in some areas of Nepal especially adjoining the Indian subcontinent. The aim of this study was to assess the prevalence of areca nut chewing habit among high school children in Terai belt of Nepal. The use of areca nut has become indigenous in this part and is being used by itself and in various formulations. The regular use of areca nut has been recognized as being carcinogenic to humans.

Materials and methods: Data on areca nut chewing habit among high school children was collected from 1359 students of age group 14–18 years from 13 schools of Parsa district of Nepal by random selection and the information was obtained from self administered questionnaire.

Results: The results from this study shows that the areca nut chewing habit is significant among the students of Parsa district (30.4%) and the frequency of chewing plain Supari was reported to be high (81.6%) followed by pan masala (10.4%) and gutkha (08.0%) and the habit increased with age.

Conclusion: It is mandatory to motivate the children not to initiate the habit and to enable the adolescent children to realize the potential health risk of areca nut products.

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1. Introduction

Areca nut is the fruit of areca catechu palm tree mainly grown in South East Asia and Pacific islands.¹ Areca nut is the fourth most commonly used psychoactive substance in the world after nicotine, alcohol and caffeine.² Areca nut chewing habit is common in Nepal especially in the Terai region adjoining India. Areca nut is one of the two main basic constituents of betel quid (wrapped areca nut, catechu paste and slaked lime in a betel leaf).³ It is chewed in various forms; plain supari, sweet supari, pan masala and in the form of gutkha. Gutkha is the preparation of crushed tobacco, areca nut, lime, catechu and flavouring agents. The independent role of areca nut in oral cancer is well documented in the literature.^{1,4–6} The International Agency for Research on Cancer (IARC) in 2004 has classified areca nut as group I carcinogen.⁷ The adverse health effects of areca nut and tobacco include oral and

oro-pharyngeal carcinoma, oral premalignant lesions and conditions, gum diseases and addiction.^{8,9}

It is estimated that around 600 million people (10–25% of world's total population) chew areca nut in this or the other form and most of the chewers are concentrated in the Asian continent.¹⁰ Recent survey has shown that since last two decades, almost 20% population from Pakistan, India and Nepal has been using areca nut habitually.¹¹

Chewing betel quid and areca nut is considered as a part of custom and tradition in some of the communities throughout the Indian subcontinent including Nepal and Pakistan.¹²

Nowadays, areca nut is getting popularity in the younger generation in the form of processed areca products.¹³

Aggressive advertising and too much marketing in small attractive and inexpensive sachets since early 1980s has greatly enhanced the sales of these products.¹⁴

High proportions of school going children are being attracted and have started using areca in some form.

Since, not so much data is available about the indulgence and prevalence of areca nut chewing habits in this area, the current

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study was undertaken to assess the prevalence of the habit especially in the Terai belt of Nepal.

2. Aims and objectives

To assess the prevalence of areca nut chewing habit among high school children in Parsa district of Nepal.

To evaluate the reasons for areca nut chewing in various forms in children so that in future proper preventive measures can be taken to reduce this monstrous habit.

3. Materials and methods

The school based cross-sectional study was carried out in various urban and rural educational zones of Parsa district of Nepal as per convenience. Study sample consisted of 1359 students from 13 high schools by random selection in Parsa district of Nepal. Children of both sexes were included in this study. Permission to conduct the study in these schools was obtained from the school authorities. The parents of the students regarding the examination were informed through the concerned class teachers. Data on consumption of areca nut was obtained by a self-administered questionnaire based upon demographic characteristics, areca nut use, daily frequency of areca nut chewing, other ingredients mixed with nut (e.g. leaf and lime), tobacco use (smoking and/or chewing), age of initiation of nut chewing, reasons for use, social influence factors and risk perceptions. The data was compiled and Chi-square test (χ^2) was applied.

4. Results

Out of 13 schools included in the study, 06 schools were selected from urban areas and 07 schools from the rural areas. Data were collected from 1359 students who participated in the study.

Out of these, 654 (48.12%) were boys out of which 111 (16.97%) boys were in the age group of 14–15 years, 136 (20.79%) were in the age group of 15–16 years, 193 (29.52%) were in the age group of 16–17 years and 214 (32.72%) were in the age group of 17–18 years. 705 (51.88%) subjects were girls out of which 112 (15.88%) girls were in the age group of 14–15 years, 139 (19.72%) were in the

age group of 15–16 years, 193 (27.38%) were in the age group of 16–17 years and 261 (37.02%) were in the age group of 17–18 years (Table 1).

In the urban areas between the age group of 14–15 years, total number of subjects were 129 out of which 42 were habituated and 87 were non-habituated with $\chi^2 = 5.36$ and p value 0.02056 (significant <0.05). In the age group of 15–16 years, total number of subjects were 152 out of which 37 were habituated and 115 were non-habituated with $\chi^2 = 0.97$ and p value 0.32352 (non-significant). In the age group of 16–17 years, total number of subjects were 162 out of which 50 were habituated and 112 were non-habituated with $\chi^2 = 8.39$ and p value 0.00376 (significant <0.01). In the age group of 17–18 years, total number of subjects were 171 out of which 45 were habituated and 126 were non-habituated with $\chi^2 = 4.43$ and p value 0.03515 (significant <0.05) (Table 2).

In rural areas in the age group of 14–15 years, total number of subjects were 94 out of which 29 were habituated and 65 were non-habituated with $\chi^2 = 9.25$ and p value 0.00235 (significant <0.01), in the age group of 15–16 years, total number of subjects were 123 out of which 39 were habituated and 84 were non-habituated with $\chi^2 = 9.55$ and p value 0.00199 (significant <0.01), in the age group of 16–17 years, total number of subjects were 224 out of which 77 were habituated and 147 were non-habituated with $\chi^2 = 12.91$ and p value 0.00032 (significant <0.01) and in the age group of 17–18 years, total number of subjects were 304 out of which 94 were habituated and 210 were non-habituated with $\chi^2 = 12.47$ and p value 0.00041 (significant <0.01) (Table 3).

In urban areas out of 107 habituated boys, 80 (74.77%) were in the habit of taking plain supari, 14 (13.08%) of them were taking pan masala and 13 (12.14%) were in the habit of taking gutkha with $\chi^2 = 12.14$ and p value 0.0487 (significant <0.05). In rural areas out of 142 habituated boys, 106 (74.64%) were in the habit of taking plain supari, 18 (12.68%) of them were taking pan masala and 18 (12.68%) were in the habit of taking gutkha with $\chi^2 = 27.87$ and p value 0.00009 (significant <0.01) (Table 4).

In urban areas out of 67 habituated girls, 63 (94.03%) were in the habit of taking plain supari and 04 (05.97%) of them were taking pan masala with $\chi^2 = 5.73$ and p value 0.45355 (non-significant). In rural areas out of 97 habituated girls, 88 (90.72%)

Table 1
Distribution of subjects according to sex.

Age (years)	Boys			Girls			Total
	Habit	Non-habit	Total	Habit	Non-habit	Total	
14–15	36	75	111	35	77	112	223
15–16	47	89	136	29	110	139	275
16–17	84	109	193	43	150	193	386
17–18	82	132	214	57	204	261	475
Total	249	405	654	164	541	705	1359

Table 2
Association of chewing habit according to sex in urban areas.

Age (years)	Habit present			Habit absent			χ^2	p
	Boys	Girls	Total	Boys	Girls	Total		
14–15	15	27	42	50	37	87	5.3637	0.02056 <0.05
15–16	24	13	37	64	51	115	0.9747	0.323521 (NS)
16–17	38	12	50	58	54	112	8.3952	0.003762 <0.01
17–18	30	15	45	61	65	126	4.4377	0.035153 <0.05
Total	107	67	174	233	207	440		

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