

## RESEARCH ARTICLE

# Knowledge, Attitude and Practice of Chewing Gutka, Areca Nut, Snuff and Tobacco Smoking Among the Young Population in the Northern India Population

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### Abstract

**Objective:** The objective of the study was to determine the Knowledge, Attitude and Practice of chewing gutka, areca nut, snuff and tobacco smoking among the young population in the Northern India Population between the age of 15 to 22 years. **Methods:** The study was approved by the ethical committee. A total of 10 school and colleges located in the rural and urban areas was selected. A total of 1500 young individuals aged between 15 to 22 years were selected. A self-administered questionnaire was designed comprised of 14 closed ended questions about Knowledge, Attitude and Practice towards consumption of areca nut, gutka and tobacco smoking that were filled by the participants. Descriptive statistics were obtained and mean, standard deviation, frequency and percentages were calculated. Data was analyzed by using SPSS. **Result:** A total of 1050 out of 1500 students responded to the questionnaire. A total of 227 subjects agreed that they are consuming the tobacco. Out of this, 196 (86.34%) were boys and 31 (13.65%) were girls who agreed in consumption of tobacco product. Out of 196, 150 boys (76.5%) practices the habit of smoking 1 -5 times a day and 46 (23.4%) practice the habit of chewing areca nut and gutka 1 - 5 times a day. Out of 31 girls, 25 girls (80.6%) practices the habit of smoking 1 -5 times a day and 6 (19.4%) practice the habit of chewing areca nut and gutka 1 - 5 times a day. Out of 740 subjects, 530 were boys and 210 girls have full knowledge of deleterious long term effects of tobacco consumption. **Conclusion:** The present study concluded that young population of North India lack Knowledge, Attitude and Practice regarding consumption of areca nut, gutka and tobacco smoking. Here is an urgent need to take effective steps, especially on launching community awareness programs for the school children and public to educate them about the consequences of tobacco use, and on assessing their effectiveness in curbing the problem.

**Keywords:** Areca nut- awareness- chewing habits- cigarette smoking-gutka- school children- tobacco smoking

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### Introduction

Areca nut is chewed by approximately 600 million people worldwide, and is the fourth most common psychoactive substance used globally. (Nelson et al., 1990; Warnakulasuriya, 2002). Areca nut chewing, by itself or in combination with scents, condiments or sweeteners is an accepted practice in parts of the Western Pacific and many South and South East Asian countries (Nelson et al., 1990; Warnakulasuriya, 2002).

In India tobacco use is estimated to cause 800,000 deaths annually. The World Health Organization predicts that tobacco deaths in India may exceed 1.5 million annually by 2020. The prevention of tobacco use in young people appears to be the single greatest opportunity for preventing non-communicable disease in the world today (Murray and Lopez, 1996). Oral cancer is the third most common cancer in India after cervical and breast cancer amongst women. In India, the age standardized incidence

rate of oral cancer is reported at 12.6 per 100,000 people (Nair et al., 2012). The increased prevalence of the oral cancer in the Indian subcontinent seems to be due to the high exposure to sunlight due to farming, smoking and other smokeless tobacco habits, alcohol, spicy food, and neglect of overall oral health. It is said that one third of all oral cancers are preventable and one third of them occur due to risk factors (Nair et al., 2012). The highest age-adjusted incidence for oral cancer is highest in India, i.e. 15.7 per 100,000 and lowest in Japan which is 0.2 per 100,000 and the difference is predominantly due to use of tobacco between the two nations (Sankaranarayanan et al., 1998). In the West, the cancer of tongue and floor of mouth is common whereas in Indian subcontinent the cancers of gingival and buccal mucosa are common due to placement of tobacco quid in the oral cavity. This cancer of gingivobuccal complex is termed as Indian oral cancer (Oral Cancer Prevention and Research Foundation, India) (Sankaranarayanan et al., 1998).

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Tobacco use is the single most preventable cause of disease, disability, and death worldwide. Tobacco kills one human being every six seconds. That works out to 560 people every hour, 13,440 people per day and 49 lakh people per annum. Tobacco kills 15 times as many people as suicides, murder or manslaughter.

Oral cancer will remain a major health problem and efforts towards early detection, and prevention will reduce this burden. Most cancers of the oral cavity are oral squamous cell carcinomas (OSCC), and tobacco, alcohol and betel use the main risk factors for these and many potentially malignant lesions (PML). The main high risk groups are older adult males who use tobacco and alcohol. It is expected that early diagnosis of PML can reduce mortality. Early diagnosis of OSCC can speed proceeding to treatment and can improve the prognosis. This requires patients to seek an oral and dental examination at an early stage. Conventional oral examination (COE) is the standard method of revealing PML and OSCC, confirming the clinical suspicion by biopsy and histo-pathological examination. Histopathology has for many years been the gold standard in the diagnosis of OSCC; however, it is a rather slow process, requiring several days to fix, embed and stain the biopsy specimen before results can be available. It is subject to inter-pretation of pathologists, and although it can detect cellular changes, it can only detect molecular changes if special techniques are employed.

In general, adolescence and young individuals now a day are more susceptible to enrolled in this kind of habits. They are more predisposed by marketing than the adults and if their Friends or relatives smoke tobacco, they are more eager to try this kind of habit.

Gutka is a preparation of crushed tobacco, areca nut, lime, catechu and flavoring agent. Media or electronic advertisements and too much marketing of gutka in small eye catching and low cost sachets has greatly enhanced the sales of these products (Shah et al., 2008 ).

Tobacco use and especially cigarette smoking is a major public health problem among students not only in developed countries but also developing countries. The Global Youth Tobacco Survey reported that no difference was observed in cigarette smoking prevalence between boys and girls in 58% of the countries. The use of tobacco by fathers and friends, adults, poor educational background and availability to pocket money as major contributors to tobacco use by students (Kyrles et al., 2007).

Therefore the present study was conducted primarily to determine the Knowledge, Attitude and Practice of chewing gutka, areca nut, snuff and tobacco smoking among the young population in the Northern India Population.

## Material and Methods

Ethical clearance will be obtained from the institutional ethical board before starting the study. Written informed consent of the patient will be obtained. A total of 1500 young individuals aged between 15 to 22 years were selected from the different school and colleges of rural

and urban areas of the region. A total of 1050 out of 1500 students responded to the questionnaire.

Students of age range between 15 -22 years who consume areca nut, snuff, gutka and tobacco smoking and chewing were included in this study. A self-administered questionnaire was designed comprised of 14 closed ended questions. The questionnaire was further divided into three sections to know about Knowledge, Attitude and Practice towards consumption of areca nut, gutka and tobacco smoking. In the knowledge section, information was collected on whether betel nut is responsible for a variety of harmful health complications such as mouth and throat cancer. In the attitude section, the chewing of betel nuts were assessed through the person's willingness to quit this habit and to discourage others from this habit. Regarding practices, the number of packets consumed daily were classified into 3 groups "one to five", "six to ten" and greater than 10. The age at which the user started this habit; fraction of income spent; and the form in which he chewed betel nuts were also noted. All the available students were requested to participate in the study and consent was taken from guardians/teachers of all the participants.

Descriptive statistics were obtained and mean, standard deviation, frequency and percentages were calculated. Chi-square test was done to assess the association of gender with areca nut consumption. Data was analyzed by using SPSS version 15.

## Results

Mean and standard deviation regarding attitude and practice towards consumption of areca nut , gutka and tobacco smoking was ( $1.6 \pm 0.5$ ) as shown in (Table 2). A total of 227 (21.6%) subjects agreed that they are consuming the tobacco. Out of this, 196 (86.3%) were boys and 31 (13.6%) were girls who agreed in consumption of tobacco product. Out of 196, 150 boys (76.5%) practices the habit of smoking 1 -5 times a day and 46 (23.4% ) practice the habit of chewing areca nut and gutkha 1 - 5 times a day. Out of 31 girls, 25 girls (80.6%) practices the habit of smoking 1 -5 times a day and 6 (19.4%) practice the habit of chewing areca nut and gutkha 1 - 5 times a day. (Table 3).

52% of subjects reported that they had started the habit between 12–16 years of age. There was no rural urban difference. Being of male gender, having an age above 15, smoking by a close relative (father, mother, sister/brother) or friends were significantly associated with smoking by the adolescent children (Table 2,3).

Out of 196 boys, 110 (57%) buy these products from the shops located nearby their area and 86 (43%) buy products from their friends. Out of 31 females, 25 (80.6%) buy these products from their friends and 6 females (19.3%) buy from shops (Table 3).

Out of 1050 subjects, 740 subjects (72.3%) were aware of the harmful effects of the usage of tobacco products. Out of 740 subjects, 530 were boys and 210 girls have full knowledge of deleterious long term effects of tobacco consumption. Surprisingly only 40 subject (18.2%) tried to get rid off the smoking after knowing the harmful effects

Table 1. Studies on Tobacco Use

| Author                 | Sample   | Age of onset                                      | Ever use  | Current use                            | Current daily use    | Type of tobacco use       |
|------------------------|--|---|---|--|----------------------|---------------------------|
| Kapoor et al (1995)    | School and college students (N = 1386, M-81.5%, F-18.5%) | 5–10 in 36.1%<br>11–15 in 44.0%<br>16–20 in 19.9% | 12% in total sample;<br>6% in 13–14 age group;<br>15% in >18 age group;<br>M = 14.2% F = 2.3%   | 7.10%<br>(smoked in the previous week) | 29% (of all smokers) | Smoking                   |
| Jayant et al           | Urban school students (N = 1633, M-78.4%, F-21.6%)       | --  | EM <sup>a</sup> schools – 22.5%<br>in boys<br>PIL <sup>b</sup> schools – 6.9%<br>in boys<br>MIL <sup>c</sup> schools – 13.8%<br>in boys<br>Girls – 1.1% | --                                     | --                   | 86% smokers               |
| Gavarsana et al (1991) | College students (N = 599, M-64.6%, F-35.4%)             | 10–12 in 64%<br>15 or more in 31%                 | Smoking in 18% boys;<br>Snuff use in 38% boys and 12% girls   | Smoking in 8% boys                     | --hh                 | Smoking and snuff tobacco |
| Singhi et al (2006)    | School boys (N = 467)                                    | 10–14 in 80%                                      | 20% in 12–20 age group  | -                                      | 42% of all smokers   | Beedis, cigarettes        |

Table 2. Showed Descriptive Statistics of Knowledge, Attitude and Practice of Areca nut, Gutka and Smoking in Children

| Variables   | Mean± SD     | P- value |
|---|--------------|----------|
| Do you /have you ever used tobacco products?                  | 1.36 ± 0.409 | 0.001    |
| How many do you/did you smoke?                                | 0.18 ± 0.546 | 0.005    |
| Do you or have you ever chewed tobacco pan, gutka and supari? | 1.61 ± 0.516 | 0.237    |
| How many do you/did you chew?                                 | 0.51 ± 0.763 | 0.549    |
| At which age you started this habit?                          | 1.02 ± 1.318 | 0.065    |
| Why do you use these products?                                | 0.90 ± 1.181 | 0.582    |
| Have you ever tried to quit these habits?                     | 0.72 ± 0.756 | 0        |
| Do you know harmful effects of these products?                | 1.23 ± 0.590 | 0.866    |
| From where you get these products?                            | 2.18 ± 0.871 | 0.001    |
| How many times do you brush your teeth?                       | 1.76 ± 0.703 | 0.002    |
| What do you use to clean your teeth?                          | 1.13 ± 0.398 | 0.837    |
| Do you use dental floss?                                      | 1.63 ± 0.493 | 0.036    |

of tobacco consumption (Table 3).

## Discussion

The prevalence rate of smoking and chewing tobacco found to be significantly high 21% in the young individuals as compared to reported studies. The possible explanation for this may be no recent studies has been conducted in this context and the prevalence of chewing and smoking are increasing day by day and becoming a fashion among

the young individuals. Kapoor et al reported the prevalence of 12 % in 1995 conducted in Indian population (Table 1) (Kapoor et al., 1998).

According to the results of Global Youth Survey Project conducted on school children of age groups 13–15 in 12 countries (Barbados, China, Costa Rica, Fiji, Jordan, Poland, Russian Federation, South Africa, Sri Lanka, Ukraine, Venezuela and Zimbabwe), current cigarette smoking was found to vary from 10% to 33% . In Russian Federation, Sri Lanka and Ukraine, smoking was found

Table 3. Frequency of Consumption of Areca Nut, Gutka and Tobacco Smoking in Children

| Variables   | Boys | Girls | Total |
|---|------|-------|-------|
| Do you/have you ever used tobacco products?                   | 196  | 31    | 227   |
| Do you or have you ever chewed tobacco pan, gutka and supari? | 46   | 6     | 52    |
| Do you Smoke?   | 150  | 25    | 175   |
| Have you ever tried to quit these habits?                     | 35   | 5     | 40    |
| Do you know harmful effects of these products?                | 530  | 210   | 740   |
| Do you use dental floss?                                      | 196  | 77    | 273   |

to be more common among boys than in girls, whereas it was more common among girls in China, Fiji, Jordan, and Venezuela (Kyrleski et al., 2007).

Although this habit is equally distributed among all population age groups, a generally higher proportion of school going children are observed of consuming areca nut on daily basis in one or the other form (Kapoor et al., 1995). The present study reported that a total of 227 students amongst which 196 (87%) were boys and 31 (13%) girls consumed tobacco products, gutka and areca nut. Another cross sectional study conducted in government school of Mahmoudabad and Chanesar Goth, Karachi which reported that 97.3% consumed tobacco products amongst which 167 (62%) were boys and 165 (44.6%) were girls (Shah et al., 2008). Gavarsana et al., (1991) found tobacco-snuff-use in 38% of males and 12% of females in a sample population of 599 college students.

Tobacco use and especially smoking is a male-dominated phenomenon among children and adolescents in India. This is unlike the West, where its distribution is equal among both genders. In some countries like China, Fiji, Jordan and Venezuela, smoking is rather more common among females (Chadda and Sengupta, 2003).

In India, the use of smokeless tobacco has becoming more popular during the last few decades. A decline in tobacco use, as evident in the USA and some European countries, does not seem to be observed in near future in India (Chadda and Sengupta, 2003). In contrast, the use of chewing tobacco seems to follow a rising trend, particularly among the street children and college students, which is a matter of serious concern. The present study reported that Out of 196, 150 boys (76.5%) practices the habit of smoking 1 -5 times a day and 46 (23.4%) practice the habit of chewing areca nut and gutkha 1 - 5 times a day. Out of 31 girls, 25 girls (80.6%) practices the habit of smoking 1 -5 times a day and 6 (19.4%) practice the habit of chewing areca nut and gutkha 1 - 5 times a day.

The sources of information about the areca nut / tobacco smoking were; observing in the community, prompting by friends and family influence. The present study reported that 57 % boys and 80.6% girls buy these products from their fellow colleagues. Rest others buy these products from the nearby shops. Dere et al., (2014) reported that amongst 65.7% of the boys first came to know from their friends whereas 66.7% of the girls came to know from their family members. Chadda et al., (2003) revealed that More than 40% of children had started the habit between 10–15 years of age. There was no rural urban difference. Being of male gender, having an age above 15, smoking by a close relative (father, mother, sister/brother) or friends were significantly associated with smoking by the adolescent children 11.

Regarding the knowledge and awareness of harmful effects of chewing habits, Singh et al showed that 2842 (99.2%) boys and 934 (99.5%) girls were aware that tobacco use is harmful and similar proportions disliked it 13. Gupta D et al., (2014) reported that amongst 1,365 (91.4%) students claimed to have knowledge about harmful effects of tobacco.14 The present study reported that 740 subjects (72.3%) were aware of the harmful effects of the usage of tobacco products. 530 were boys

and 210 girls have full knowledge of deleterious long term effects of tobacco consumption. Surprisingly only 40 subject (18.2%) tried to get rid off the smoking after knowing the harmful effects of tobacco consumption. More than 70% among both boys and girls were using the substances with full knowledge of their family. out of 196, 80 (40.8%) boys and out of 31 girls, 15 girls (48%) responded in this study that their parents are aware of their habits. Chadda and Sengupta, (2003). reported that Only less than 13% of the students were found to be aware of the harmful effects of different tobacco products. Shah et al., (2008) reported that 60% believed that chewing is a bad habit and around 69% of the consumers had been advised by their acquaintances to quit the habit.

The most common reason put forth by users was peer pressure, followed by advertisements, general stress, and academic pressure. The academic pressure was more amongst private school students whereas peer pressure was more amongst government school students (Chadda and Sengupta, 2003; Vaidya, 1995; Patel, 1999). Although children may start smoking for psychosocial reasons like peer influences, curiosity, desire for experimentation or as a remedy for stress, the pharmacological motives take on place very early in their smoking career . Consequently, by the time children smoke on a daily basis, they take up the same amount of nicotine from each cigarette as their adult counterparts (Chadda and Sengupta, 2003).

Peer pressure is an important determining factor for initiation of tobacco use among children and adolescents. There are several processes by which being associated with drug-using peers contributes to drug-abusing behavior. Here, modeling and social approval play an important role. When one is distressed due to any reason, an offered cigarette or beediby a friend initiates the conforming process with a tobacco-using peer-group network (Chadda and Sengupta, 2003).

In India, if we talk about the preventive strategies, the first step should be to control the epidemic of head and neck cancer is to discourage the use of betel nut and tobacco. In order to achieve this goal, extensive measures should be taken by healthcare workers, media and community. Unfortunately, there have been very few steps on this issue. Behavioural intervention has proved to be a very potent way in reducing the use of smokeless tobacco (Tseng, 2008; Ebbert, 2003). Visual illustrations of the harmful effects caused by the use of betel nut may be helpful for this purpose. Strong pictorial health warnings should also be present on betel nut products. Music, movies, and other types of media promoting betel nut use should be banned. The Health Ministry should play an important role in designing new policies to curb the production, trade and consumption of betel nut. Awareness campaigns for all should be conducted and social support groups should also be established for those who are addicted to betel nut chewing (Tseng, 2008; Ebbert, 2003).

Although informal tobacco cessation clinics have been in use in Pakistan, India, Sri Lanka and Bangladesh for longtime but no evaluation reports are available from any of these countries. The recent of availability of nicotine replacement therapy in the shape of nicotine patches and Bupropion has prompted several health facilities to set

up tobacco cessation clinics for people who want to quit smoking but cannot do it on their own. These clinics are mostly funded by the regional governments and some of them are also working in private sector and these clinics employ pharmacologic therapy in addition to behavioural therapy which may include different strategies ranging from telephone calls, individual counselling, rational emotive therapy and yoga with pranayam which has shown encouraging results.

In May, 1999, the World Health Assembly which is governing body of the World Health Organization passed a legislation called Framework Convention on Tobacco Control (FCTC) that could address cross country issues like advertising and promotion, agricultural diversification, smuggling, taxes and subsidies (WHO, 2000; Chaudhary, 2000). About 160 members of the United Nation have participated in these negotiations and this convention was adopted by World Health Assembly in 2003. This treaty has been ratified by most members of the United Nation and it has paved the way for strong and effective control of tobacco use and advertisement at nation as well as international level (Khan, 2012).

The present study reported that 84.6% boys and 91 % consume these products as just for fun and influenced by advertisement. Others reported that they consume these products because of good taste. Qureshi A et al reported that 70.4% students consumed because of pleasant taste and 17.7% were influenced by advertisements (Qureshi et al., 2013). Advertisement of various tobacco products are very common in all forms of media including the print media, television, and the roadside hoardings and banners. Tobacco advertising and promotion effectively target the young people with images of smokers as trendy, sporty and successful. Characters in the movies or television serials often demonstrate cigarette smoking as a routine of daily life. They sometimes even show cigarette lighting ways using different tricks. These scenes often attract the impressionable mind of the adolescent to use similar tricks or adopt similar behavior. For a child or an adolescent growing in a stressful home, television show and movies are a means of finding out what a normal life is about. He or she is likely to begin smoking after watching such visuals.

The present study concluded that school going children lack Knowledge, Attitude and Practice regarding consumption of areca nut, gutka and tobacco smoking. It was also reported that most of the subjects consumed just for fun. Therefore efforts should be made to discourage younger generation not to begin these habits and to recognize their potential health hazards. The awareness programmes should be planned to educate school children, parents, teachers and general public to discourage such habits. It is very important to develop preventive strategies to reduce tobacco consumption. Preventive strategies especially focused towards children and adolescents need to be initiated on emergent basis. This is more important for the developing countries like India, which have become the main targets of advertisement and promotional propaganda of various multinational tobacco companies. here is a need to collect nationwide data on the use of different forms of tobacco by children and adolescents,

and the factors leading to initiation of such harmful habits. There is an urgent need to take effective steps, especially on launching community awareness programs for the school children and public to educate them about the consequences of tobacco use, and on assessing their effectiveness in curbing the problem.

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