

**Knowledge and expressed practices regarding the ill effects of betel nut consumption among the patients and attendants attending NEIGRIHMS hospital, Shillong, Meghalaya**

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**Abstract**

**Introduction:** Betel nut is the 4<sup>th</sup> most commonly used addictive substance. Around 600 million people consume betel nut globally. In the United States, Food and Drug Administration (FDA) and Centre for Disease Control and Prevention (CDC) have issued alert on health risks associated with betel nut chewing.

**Methodology:** Data collection method is self-administered knowledge and expressed practices-based questionnaire. Analysis method is descriptive and Inferential Statistics.

**Result:** Majority of the participants have poor knowledge on betel nut consumption (58.97%). There is a significant association between knowledge with age, gender, education and area of residence. Majority of participants started chewing betel nut at the age of 10-20 years (53.30%), consumes for more than 12 years (61.60%), 2 - 3 times in a day (36.90%), keeps in mouth for more than 5 minutes (34.40%), swallows it (51.30%), takes it after meal (58.50%), brush their teeth twice a day (56.93%), consumes for time pass (44.23%) along with betel leaf and lime (59.57%), don't practice

anything to prevent oral lesions (33.82%), avoid spicy food after consumption (32.83%) and practice brushing and gargling to maintain oral hygiene (54.87%).

**Conclusion:** Creating awareness and enhancing knowledge regarding the harmful effects of betel nut consumption among the population is significant for the welfare of the society.

**Keywords:** Knowledge, expressed practice, ill effect and betel nut.

### **Introduction**

Betel nut is the fourth most commonly used addictive substance in the world. It is widely used throughout central, South and South East Asia, as well as in some Pacific island<sup>[1]</sup>. Around 600 million people consume betel nut globally<sup>[2]</sup>. Papua New Guinea (PNG) has the highest incidence rate of oral cancer in the world with 32.3 per 100,000 people suffering from oral cancer (WHO 2008 Statistics)<sup>[3]</sup>. In some parts of India almost one out of three teenagers regularly or occasionally chew these products (International Agency for Research on Cancer IARC)<sup>[4]</sup>.

Areca nut seed contain bioactive components like alkaloids and tannins. It is also known as salivary stimulating digestive agent and act as antimicrobial effect against oral bacteria<sup>[5]</sup>. Arecoline the major alkaloid of areca nut, has been extensively studied and several effects of betel chewing are thought to be related to the action of this parasympathetic constituent. In autonomic function tests, both sympathetic response and RR interval (the time elapsed between two successive R-waves of the QRS signal on the electrocardiogram) variation are affected. Betel nut chewing also increase plasma concentration of norepinephrine and epinephrine<sup>[6,7]</sup>.

In May 1999, the World Health Assembly which is governing body and WHO passed a legislative called Framework Convention and Tobacco Control (FCTC) that could address across country issues like advertising and promotion, agricultural diversification smuggling, taxes and subsidies<sup>[8]</sup>. Betel quid has been classified as a group1 carcinogen by the International Agency for Research on Cancer<sup>[9]</sup>. According to International Agency for Research on Cancer(IARC), betel nut can cause oral cancer, metabolic syndrome, hypertension, diabetes mellitus and obesity and disease that are closely related to the development of cardiovascular disease<sup>[1]</sup>. Betel nut can cause oral lesion associated to oral submucous fibrosis (OSMF)<sup>[2]</sup>. Among the head and neck squamous cell carcinoma patients of the North Eastern region, 83.7% are betel nut chewers<sup>[10]</sup>.

### **Need of the study**

Chewing of betel nut has a long history reaching back 200 years and some culture claim to have found benefits associated with it. However modern research shows many health risks associated with the practice. Regular chewing of the betel nut has been linked to cancer of the mouth and esophagus, oral submucous fibrosis and tooth decay.

The WHO has classified betel nut as a carcinogen and initiated an action plan to reduce its use. In the United States, both the Food and Drugs Administration (FDA) and the Centres for Disease Control and Prevention (CDC) have issued alert on health risks associated with betel nut. Reducing risk factors such as those presented by betel nut chewing is important for public health around the globe.

However, this study is planned to be conducted on adults considering them to be more prone to get addicted to it

and knowledgeable too about the habits of chewing betel nut.

Betel nut consumption can cause many health related issues therefore spreading awareness among adults will be beneficial as they are the main stem of the family.

### Objectives

The objectives of the study were

- To assess the knowledge regarding the ill effects of betel nut consumption among the patients and attendants attending NEIGRIHMS hospital, Shillong, Meghalaya.
- To assess the expressed practices towards betel nut consumption adopted by the patients and attendants attending NEIGRIHMS Hospital Shillong, Meghalaya.
- To determine the association between knowledge with selected demographic variables.

### Hypothesis

- There is a significant association between knowledge with socio demographic variables.

### Methodology

**Research approach:** Quantitative research approach was used.

**Research design:** Cross sectional study design was adopted.

### Research variable:

- Independent variables: Ill effects of betel nut consumption.
- Dependent variables: Knowledge and expressed practices of patients and attendants attending NEIGRIHMS hospital.
- Baseline variables: Age, gender, residence, education, occupation, community and religion.

**Setting:** The study was conducted in NEIGRIHMS Hospital, Shillong.

**Population:** The patients and attendants above 18 years of age attending NEIGRIHMS Hospital, Shillong, Meghalaya.

**Sample:** The sample size is 195.

**Inclusion criteria:** Patients and attendants attending all out patient departments (OPDs) and patients and attendants who consume betel nut.

**Exclusion criteria:** Patients and attendants who do not give consent to participate in the study, pediatric patients and who are not able to read and write.

**Sampling technique:** Non- probability Convenience sampling technique.

**Tools for data collection:** The data collection tools included the following sections:

Section 1: It consists of socio demographic variables like age, gender, educational qualification, occupation, religion, community and residence of the participants.

Section 2: It consists of 15 structured based questionnaire containing the following :

- General information on betel nut
- Ill effects of betel nut consumption
- Symptoms due to betel nut consumption.

Section 3: It consists of 12 structured based questionnaire to assess the expressed practices adopted towards betel nut consumption.

Scoring interpretation: As the calculated mean value for level of knowledge is 8, therefore,

- Good knowledge: 9-15
- Poor knowledge: 0-8

As the calculated mean value of the three domains are

- General information: 3
- Ill effects: 3
- Symptoms: 2

So The participants who score less than mean value is categorized as poor knowledge and above mean value is categorized as good knowledge.

working (63.08%\_) , most of them were Christian (66.67) and belongs to Khasi community (65.64%).

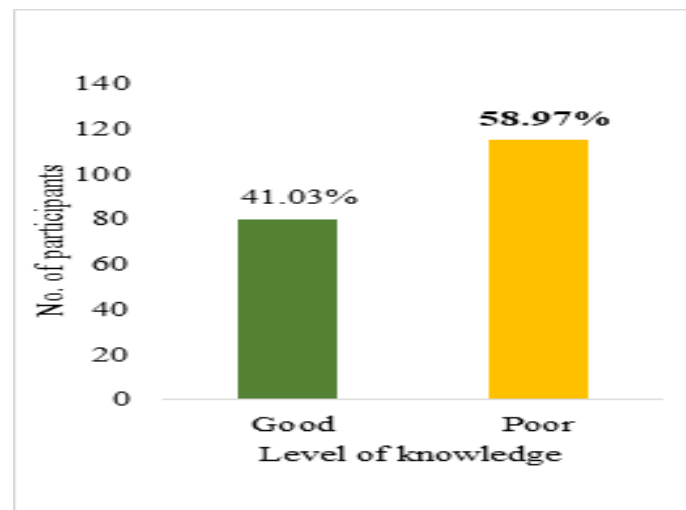
**Results**

Table 1: Demographic variables of the participants N=195

Demographic Variables		Frequency	Percentage
Age (in years)	18-30	62	31.79%
	31-40	53	27.18%
	>41	80	41.03%
Gender	Male	101	51.79%
	Female	94	48.21%
Education	Primary	37	18.97%
	Secondary	129	66.15%
	Graduation and above	29	14.88%
Residence	Rural	114	58.46%
	Urban	81	41.54%
Occupation	Working	123	63.08%
	Non-working	72	36.92%
Religion	Christian	130	66.67%
	Hindu	34	17.44%
	Others	31	15.89%
Community	Khasi	128	65.64%
	Non- khasi	67	34.36%

Data presented in table 1 shows that the majority of the participants belongs to the age group of 41 years – above (41.02%), were male (51.79%) and educated up to secondary level (68.72%). The majority of the participants were from rural area (58.46%) ,they are

Fig 1: Bar diagram showing level of knowledge of the participants

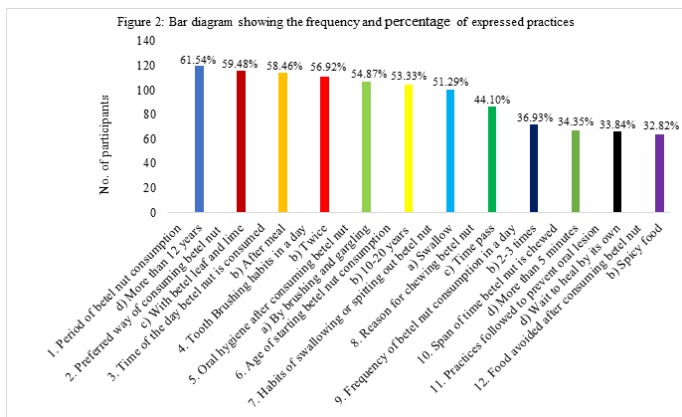


Data presented in figure 1 shows the majority of the participants have poor knowledge (58.97%) and 41.03% have good knowledge as the calculated mean value of the level of knowledge of the participants is 8.

Table2: Domain wise classification of the participants N=195

Domain	Good		Poor	
	F	%	F	%
General Knowledge	130	66.67%	65	33.33%
Ill Effects	109	55.89%	86	44.11%
Symptoms	114	58.46%	81	41.54%

Data presented in table 2 shows that the majority of the participants have poor knowledge on general information (66.67%) than symptoms (58.46%) and ill effects (55.89%) regarding betel nut consumption.



Data presented in figure 2 shows that majority of the participants started chewing betel nut belongs to the age group 10-20 years (53.30%). Most of them have been consuming betel nut for more than 12 years (61.60%). Majority chews betel nut 2-3times in a day (36.90%) and keeps betel nut in mouth for more than 5 minutes (34.40%). Most of the participants swallows the betel nut (51.30%), takes betel nut after meal (58.50%) and brush their teeth twice a day (56.93%). Majority of the participants consume betel nut for time pass (44.23%), consumes betel nut with betel leaf and lime (59.57%), do not practice anything to prevent oral lesions (33.82%), avoid spicy food after betel nut consumption (32.83%) and practice brushing and gargling to maintain oral hygiene (54.87%).

Table 3: Association of knowledge with selected demographic variables regarding betel nut consumption, n= 195

Selected demographic variables		Good	Poor	$\chi^2$ value	Table value
Age	18-30	34	28		
	31-40	17	36	*7.35	5.99
	>41	29	51		
Gender	Male	51	50	*7.72	3.84
	Female	29	65		
Education	Primary	11	26		

	Secondary	50	79	*9.68	5.99
	Graduation and above	19	10		
Occupation	Working	52	71	0.213	3.84
	non-working	28	44		
Religion	Hindu	12	22		
	Christian	51	79	3.074	5.99
	Others	17	14		
Community	Khasi	55	73	0.579	3.84
	Non-Khasi	25	42		
Residence	Rural	39	75	*5.26	3.84
	Urban	41	40		

\*Significance p value= 0.05

Data presented in table 4 shows that there is a significant association between knowledge with age, gender, education and area of residence.

**Conclusion**

Our study shows that majority of the population lack knowledge regarding ill effects of betel nut consumption and does not practice good oral hygiene. So, we suggest that creating awareness and improving knowledge through health education and health camps can alleviate betel nut consumption among the population and is significant for the welfare of the society. To protect the public from the harms of betel nut; legislation is required to regulate and control the usage of betel nut within the country.

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