

BIBLIOGRAPHY

TABBANO, JESSICA K. APRIL 2013. Perception of the Students Toward Betel Nut Chewing. Benguet State University, La Trinidad, Benguet.

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ABSTRACT

The study was conducted in the different colleges of Benguet State University. Fifty students who engaged in betel nut chewing were interviewed at random upon identifying to be positive chewing betel nut.

End-users of betel nut were found to be of middle age 21-25 and majorities belong to Ibaloi tribe. They were interviewed when found in cluster enjoying the sharing of the mixture preferred. Betel chewer was found to be 100% male. They were single and take the betel nut with tobacco and lime as their favorite mixture. The students do not have definite time to chew. They take it anytime when they are given the opportunity to do so. They use a bottle to spit the betel nut chewing to prevent the unsanitary appearance on the surroundings of our school. The practice significantly influenced by peers and friends who claimed to have positive refreshing effects to themselves. They ignore the adverse effect of betel nut into their health. The students detect betel nut chewing as alternate to cigarette smoking.

The consumption and their expenditure revealed that student who wants to influence spend more of the expenditure while those take as for friendship purpose will



spend less. Further, the availability of the betel nut commonly availed from sidewalk vendors and those students with plantation in their homeland.



INTRODUCTION

Rationale

Chewing betel nut in the Philippines can be traced back for hundreds of years. In the Cordillera Administrative Region, chewing betel nut has been observed as part of the culture of the Igorots particularly those from the provinces of Ifugao, Mt. Province and Kalinga. Nowadays, however the influence of these different groups has become apparent and prevalent to every part of the Cordillera. As it has been observed chewing of betel nut has become a problem in the community and even among the educational institutions due to the improper disposal of it leading to unsanitary environment. Ordinances have been passed in the community and policies have been created in school campuses not only in Benguet State University but also in other universities to control the improper disposal of betel nut. In addition, the aura of students chewing betel nut or “momma” is very disgusting. It is very unpleasant to have an environment with “momma” in our surrounding. Further it has very positive chance of acquiring cancer as to research conducted internationally.

Betel nut is commonly called areca nut, but can be known as supai, pan parag, marag, maag, pugua (Guam), suparim (Hindi and Bengali), puwak(Sri Lanka), gua (Sylheti), mak (Thailand), minang (Sarawak), and daka (Papua New Guinea).

Betel nut is the seed of the fruit from palm (Areca catchu) belonging to palmacea family. Betel nut chewing is an important cultural practice in some regions in South and South-East Asia and Asia Pacific. It has traditionally played an important role in social customs, religious practices and cultural rituals. Some people from these regions who settle



in other countries have continued their cultural practice of chewing betel nut (Ernst, 1998).

Usually for chewing, a few slices of the nut are wrapped in a betel leaf along with lime (not to be confused with the citrus fruits name lime) may include clove, condamom, catechu Kattha and or other spices for extra flavouring. Betel leaf has a fresh, peppery taste, but it can also be bitter to varying degrees depending on the variety. The combination of areca nut with betel leaf is called tamul in Assamese, Kavala in Kanada, Tambulam in Sanskrit, Bajjai in Tulu, and paan in Hindi, Marathi, Punjabi, and Urdu. In Ifugao it is called as “Momma” (Ernst, 1998).

The study was conducted to look on the perception of students toward betel nut chewing in Benguet State University specifically to know the reasons that influences them to chew and their level of awareness about the effects of betel nut chewing.

Statement of the Study

The study aimed to answer the following questions:

1. What are the perceptions of students on betel nut chewing?
2. What are the reasons that influence them to chew betel nut?
3. What is their level of awareness on the health effects of chewing betel nut?
4. How much is their consumption and expenditure on betel nut?
5. What are their practices in chewing and disposing the betel nut?



Objectives of the Study

The study aimed to:

1. Find out the perceptions of the students on betel nut chewing;
2. Find out the reasons influencing the students to chew betel nut;
3. Find out their level of awareness on the health effects of betel nut;
4. To determine their consumption and expenditure on chewing betel nut; and
5. To identify the practices in chewing and disposing the betel nut waste product.

Importance of the Study

The study could provide information on the perceptions of students regarding betel nut chewing which could be a guide for giving appropriate advice to students. The reasons of the students in chewing betel nut could be used as important considerations in formulating a better and more effective control measures regarding betel nut chewing specially in public areas which includes school premises, parks and offices among others.

Scope and Limitation of the Study

The study focused on the perceptions of students toward the betel nut chewing in Benguet State University. The students only involved those currently chewing betel nut.



REVIEW OF LITERATURE

Perception

Robbins (1988) defined perception as a process by which individuals organize and interpret their sensory impression in order to give meaning to their environment. People can emerge different perceptions on the same object because of three perceptual processes: selective distortion and retention. Selective distortion is the tendency to twist information in a way that will fit one's preconceptions. Unfortunately, there is not much a marketer can do about selective distortion.

Taylor (1970) found that one's perception on a certain thing determined the overt behaviour he exhibits under given condition. Likewise, Agustin (2007) stated that it is being aware of objects, qualities, relation or problems by way of the sense organ which is closely related to action.

In Selective retention, people will forget much that they learn but will tend to retain information that supports their attitudes and beliefs because of selectivity.

In selective retention people likely remember good points mentioned about competing products (Berelson and Steiner, 1964). A number of factors operate to shape and sometimes distort perception. These factors can reside in the perceiver, object or target or in the content of the situation which the perception is made and when an individual looks at a target and attempts to interpret what he sees, her/his personal characteristics heavily influence the interpretation. Their personal interpretation characteristics includes attitudes, personality, motives, interest, past experiences and interpretation expectation (Robbins,1988). Individuals cannot stimulate all they observe so they engage into selectivity depending on the observers interest background experience and attitudes.



The Betel Nut

The nut is the fruit of areca palm (*Areca catechus*). It is `chewed together with a leaf of the betel piper vine (piper betel) from which the name comes. The nut is cut into segments dabbed with lime (which is ground of and burnt sea-shell), mixed with some water or oil and wrapped in a leaf to form a quid, the chewing of which produces blood-red spittle (Bird, 1990).

The practice of betel chewing used to be prevalent throughout the Philippines from the mountain in north to the Muslim communities in the south. The tribal people of the Cordillera, commonly called Igorots, carry their containers around their waists or in little specially made baskets. The older ones chew betel nut constantly. The Igorots believe that the chewing of betel nut stave off hunger and tiredness as they work long hours in their rice fields. A catholic missionary nun working with the Ifugao and Bontoc thought that tuberculosis must be rampant among the native because they spat " blood" everywhere. Indeed early Europeans travellers who encountered chewers in the islands of the Philippines thought the same thing. But rather than blood, red spittle was due to the betel nut they constantly chewed (Locsin, 1996)

Areca nut is the seed of Areca palm (*Areca catechus*), which grow much in tropical Pacific Asia and parts of East Africa. Betel nut is often wrapped in betel leaves. The International Agency of Research on Cancer (IARC) has included that chewing areca nut is carcinogenic to human. Areca nut is not true nut, but rather a drupe. It is also commercially available in dried, cured and fresh forms. While fresh the husk is green and nut inside is soft enough to be cut and with typical knife. In the ripe fruit, the husk became yellow or orange and as it dries, the fruit inside hardens to a wood-like consistency. At



that state, the areca nut can only be sliced using a special scissors-like cutter (known as adakattera in Telugu, Adake kattari in Sinhala, Jaanti Bengali, paakkuvetti in Malayalam and Tamil, Sarautaa in Hindi and Sudi in Gujarati (IARC, 2003). Areca nut are chewed with betel leaf for their effects as a mild stimulant, causing a warming sensation in the body and slightly heightened alertness, although the effect of chewing betel leaf and Areca nut together is relatively mild and could be compared to drinking a cup of coffee.

Areca nut contains the tannin areca tannin and gallic acid; a fixed oil gums; a little terpineol lignin; various saline substance; and the three main alkaloids are arecoline, arecaidine and guvacine which all have vasoconstrictor properties? The betel leaf is chewed along with the nut contains eugenol, another vasoconstrictor. The chewers also add small pieces of tobacco leaf to the mixture, thereby adding the effect of nicotine, which causes greater addiction than drugs contained in the nut and betel leaf.

In almost part of India, Sri Lanka and Southern China, areca nuts are not only chewed along with betel leaf, but are also used in preparation of Ayurvedic and traditional Chinese medicines. Powdered areca nut is used as constituent in some dentifrices.

Other medicinal uses include the removal of tapeworms and other intestinal parasites by swallowing a few teaspoon of powdered areca nut, drunk as decoction, or by taking tablets containing the extraction alkaloids. Recently it is reported that areca nut powder extract is capable of reducing silver ion to silver nanoparticles (Rhavishankar, 2012).

In northern Philippines, lime container is usually made from wood and bamboo. Many of these are made from sections of bamboo, incised with delicate geometric patterns and further decorated with beads. In the case of small containers, cotton or cloth may be



used as stoppers. This wood container is made in the form of Chinese jars with carved human or animal figures or stoppers.

Betel Chewing Term

Dawn Rooney (1963), in her publication on betel chewing traditions in Southeast Asia for Oxford University Press, list in regional terms for the betel leaf, areca nut and lime from Burma, China, India, Indonesia, Laos, Malaysia, Thailand, and Vietnam, but offers none for the Philippines.

Other than the aforementioned terms for the betel chew and its components, a look through some Filipino- English dictionaries revealed the words: ikmo (piper betel; betel leaf pepper); dahon ng ikmuhan (to supply with ikmo); mangikmo (planters or dealer in ikmo). These are just the Tagalog (which is the national language) terms. Besides those already mentioned, there are various regional terms in use or formerly used though out Luzon, the Visayas and Mindanao.

Western influence and modern-day hygiene have more or less obliterated the chewing of betel nut in urbanised areas of the Philippines. There are doctors who believe the practice may contribute to mouth and throat cancer, cause plague if not discolour and rot the teeth. It no longer takes a chew of the buyo to redden the lips of a maiden. Tea or coffee is the favourite drink of the day to aid digestion after dinner. Alcohol and its derivatives is what loosens up the tongue and helps the shed inhabitations at intimate social gatherings. To the sophisticated man or woman, lighting up a cigarette (notwithstanding the surgeon general's warnings) is the customary way to relax. The nervous individual may pop a tranquiliser to induce sleep.



The waning of the old practice as well as economically difficult times have forced tribal peoples to exchange their cherished heirlooms and handcrafted treasures for ready cash. Betel boxes and other paraphernalia are particularly desired by anthropological museums as well as private collectors for the diversity of shape, specific functions and precious materials. They are relics of an enduring and persuasive custom that for many generations held most of Southeast Asia under its spell.

Betel Chewing in Southern Philippines

In the Visayas, the nut was called bonga and the betel leaf buyo along with the prepared quid. Sometimes quid was called mamonor mamam: to chew it was to mama. The term used sometimes varied from region to region.

According to the Philippines historian (Scott, 1994) "the preparation, exchange and serving of betel nut were the most important social act among the Visayans." Men carry the necessary ingredients with them in little baskets or pouches ready to share these with friends and associates. On special occasions a touch of musk or a slice of cinnamon bark or some other aromatic flavouring may be added. To chew betel nut with the beloved was an act of flirtation; to send one in response was an acceptance of his advances.

To the rural folks, chewing of betel nut consists of plucking a betel leaf off the vine growing in the backyard, picking a nut of areca palm, dabbing it with a lime paste and popping it into one's mouth. In some places, the custom must be purely social undertaking, offering betel to an acquaintance or to a stranger as a gesture of friendship. In central and southern Mindanao, betel chewing may be a simple pleasure and at the same time hold ritualistic associations. This custom is specially noted among the Maranao, Bagobo and Tausug groups.



Effects on Health

The International Agency of Research on Cancer (IARC) regards the chewing of betel and areca nut to be a known human carcinogen. The media has reported that regular chewers of betel leaf and areca nut have a higher risk of damaging their gums and acquiring cancer of the mouth, pharynx, esophagus and stomach. Studies have found tobacco and caustic lime increase the risk of cancer from areca nut preparations.

Studies have been conducted on the use of a pure paan preparation: areca nut, betel leaf, and lime only. One study found that the unprocessed areca nuts, even high doses, displayed only a very weak carcinogenicity, whereas use of processed areca nuts, as commonly used in paan preparation, causes cancer. Since 1971, many studies have showed areca nut extracts that cause cancer in rodents. In 2003, the International Agency of Research on Cancer (IARC) reached the conclusion that there is sufficient evidence that the habit of chewing betel quid, with or without tobacco, is carcinogenic to humans. Support for this conclusion is provided by a recent study which found that paan, even without concurrent tobacco use, is a risk factor for oral cancer. The Merchant et al. further determined that paan, when consumed without tobacco, increased oral cancer risk by 9.9 and 8.4 times, respectively, compared to those who do not consume paan.

The use of areca nut paste to clean teeth is mentioned in fiction, notably in James Joyce's *Ulysses*, set in 1904. However, the increase in mouth ulcers and gum deterioration caused by chewing areca nut and betel may outweigh any positive effects (*Ulysses*, 1984).



Effect of Betel Nut

The effect of betel nuts is due to several chemicals, including arelocoline, which affects the central and automatic nervous systems. In betel quids, some of the effects may be due to the types of leaves that are used (Scott, 1994).

The effect of betel nut is still not fully understood. For example some claim that chewing betel nuts and betel quids can be used to help treat parasitic infections, strengthen teeth and gums, help with symptoms of mental illness such as schizophrenia, suppress hunger, stimulate appetite, reduce nausea, treat diarrhoea, and act as an aphrodisiac.

Short- term Effect

People who chew betel nut reported that the effect is dizziness usually beginning within a few minutes of chewing and sometimes for a couple of hours.

The effect seems to depend on the amount of betel nut being chewed, and whether the person chews betel nut or betel quid occasionally or on a regular basis. Scott (1994) stated that the effects are generally stronger for people who use betel nut occasionally than those who chew regularly. Some of the reported immediate effect of chewing betel nut and betel quid include the mild euphoria and a sense of well-being, increased alertness, palpitations and the increased heart beat rate, increased blood pressure, sweating, and facial flushing and a warm sensation in the body. However, people who are chewing betel nut who chew a large amount may also experience betel nut tremor, dizziness, diarrhoea, upset stomach, vomiting and acute psychosis.



Long- term Effect

Excessive long-term use of betel nut and betel quid has been associated with a number of health related issues and problem such as; discolouration of teeth and gums, sometimes turning reddish-brown, mouth ulcer and gums disease, oral sub mucous fibrosis and oral increased risk of heart disease.

Chewing areca nut alone has been linked to oral sub mucosal fibrosis. According to Medline Plus, "long-term use of betel- areca preparations has been associated with oral sub mucosal fibrosis (OSF), pre-cancerous oral lesions and squamous cell carcinoma. Acute effects of betel nut chewing include asthma exacerbation, hypertension and tachycardia. There may be additionally higher risk of cancer of the liver, mouth, esophagus, stomach, prostate, cervix, and lung with regular betel use. Other effects can include a possible effect on blood sugar levels, which may in turn increase the risk of developing type 2 diabetes (IARC, 2003).

The Betel in Ethnographic Records

The betel or its components such as the areca nuts are mentioned in the ethnographic records in the Philippines, usually as the items of trade or when describing habits of the native peoples encountered.

Trade with the Chinese and other Arab nation had been going on for several centuries before the Philippines was discovered by the Spanish conquistadors. Ma-I, a name by which some islands of the Philippines was known, was listed in the Zhufanshi (Description of barbarian Peoples) as trading its products consisting of yellow wax, cotton, pearl, tortoiseshell, medical betel nuts and yuta cloth for which the Chinese bartered



porcelain, trade gold, iron censers, lead colours glass bead and iron needles. Zhou Rugua wrote the account while he was superintendent of Maritime trade at Quanshou, in Fujian province. This was the most important port of the 12th and 13th centuries in China.

In the 16th century, Magellan's Chronicler Pigafetta, in an account of their first voyage around the world, describes the people they encountered in Samar as "heathens" constantly chewing a fruit that they call "Areca"... which resembles a pear... They cut this fruit into four parts and wrap it in the leaves of the vine that they call betel (betel) which resembles the leaves of the mulberry. They mix it with some lime and when they have chewed it thoroughly, they spit it out. It makes the mouth exceedingly red. All the people in those parts of the world use it, for it is very cooling to hear, if they ceased to use it, they would die.

Reports to the Religious Orders

Throughout the Spanish colonial period, local officials as well as various religious orders regularly sent reports to the king or the superiors in Spain. Meanwhile, European travellers wrote their impressions of the country and its peoples.

The Jesuit Fr. Pedro Charino in 1600 AD wrote about the affairs of the country he had been sent to Evangelise. "The buyo". According to Fr. Charino, "provides great sustenance to the living. It strengthens the teeth, tightens the gums and sweetens the breath. And so the Indians (the natives were referred to as "Indio") and even the Spaniards make much use of it. "Among the other customs he described was the manner in which the Filipinos shrouded and buried their dead. The body was anointed with the aromatic ointments to preserve it, " especially with the sap of the plant similar to the ivy. It is called



the buyo and pungent in taste” (Chirino, 1969).

Another religious worker, Fray Juan de Plasencia wrote about the customs of Tagalog people of Central Luzon. ‘Their usual objects of sacrifice were goats, fowls, and swine which were flayed, decapitated and laid before the idol”.

Sometimes the rice is also set before the idol while all about it are placed buyo," a small fruit wrapped in a leaf with some lime". The buyo, together with other sacrificial objects were employed by the Tagalogs in all manner of rituals that are offered for a sacrificial for a variety of reasons. These may be for the recovery of a sick person, good weather for those embarking on a sea voyage, a bountiful harvest for sowed fields, a propitious result in war, a successful delivery in the childbirth and a happy married life (Plasencia, 2008).

The Jesuit Francisco Ignacio Alcina spent thirty- six years of his life among the Bisayans. He jotted down voluminous notes of his observations and interaction with the natives while travelling around Samar, Leyte, Cebu, Panay, Bohol, and Negros. He died before his monumental work, *Historia de Las Islas e Indios de bisayas-1668*, was published. There are several references to the chewing of the buyo by the natives, a habit that he personally found repugnant. Among other observations, he noted that the principalias and the other people of higher status who use it, have little vessel of silver, or even of gold, porcelain from China for spittoons. I have the vessel. The "little vessels of silver, or even at time, of gold" referred to Alcina are usually lime containers (Chirino, 1969).



The Betel Monopoly

The Spanish colonial enterprise in the Philippines was always short of men and money. There were no easily obtainable sources of wealth and therefore few Spaniards ventured to settle in a country made doubly inhospitable by the hot tropical climate. Had it not been for the development of the galleon trade, the Spaniards might have given up on the Philippines. The galleon trade not only provided the Spaniards with the way of making a living, the sale of cargo space in the ships helped defray the cost of maintaining the colony.

Other ways of generating revenue were the monopolies instituted by the government on the growing and marketing of certain products indispensable to the lifestyle of the Indio. Among these, monopolies were the growing of the palm wine, betel and tobacco.

There is the town in Bustos, Bulacan which is still called Bonga Mayor. There are interestingly carved stone houses some of them exhibiting stylized renditions of the areca palm which had occupied people of the town for a hundred years. The areca palm is planted at the foot of the nearby Sierra Madre Mountain. When ready for use, they were gathered and stored in warehouses that in many cases were the downstairs area of the large stone houses, and readied for the market, a revenue generating activity controlled by the colonial government (Bowring, 1958).



Market Outlet

Lewis (1994) stated in his study that, in the wet markets outside of the Manila, one can still buy the areca nut (bunga), the betel leaf (ikmo) and the prepared lime (apog). These days a piece of chewing tobacco (mascada) is always part of the quid (nganga). At a special section of the Quiapo market at the heart of the city of Manila, these components of the betel chew are still readily available. Vendors say that the leaves have come all the way from Peranda in Nueva Ecija and the areca nut from Bulacan and sometimes from Laguna. The lime, which is ground Burt seashell sometimes mixed with water or coconut oil to form a paste, can be from anywhere. Betel leaves, ikmo, and areca nut bunga, together with lime, apog, are sold at Quiapo market in Manila. Since there are many vendors, there must still be quite a number of chewers around. In Quiapo, vendors say most of their costumers are “Bombay” the local term used to denote Indians from India.

The Betel in Early Philippine Literature

Epics in Philippines literature are narratives based on oral tradition that revolve around heroic deeds or supernatural events. Usually in verse, they are chanted or sung. The advent or Western ways have obliterated much of sold costumes and tradition in the Philippine countryside (Wells, 1971).

Ullalim verses tell of the importance of betel in the life of the Kalinga, a pagan tribe of Luzon. Palms of the areca are planted on the slopes of their village hills and the borders of their fields and houses. This tress perpetuates them by dropping their ripened fruits on the earth where the Kalinga live and die". "Behold here, a nice red ripe betel nut," the ullalim opens a message of the betel nut with. The stereotyped phrase " a nice red ripe of



betel nut " is repeated several times elsewhere in the verse. Betel nut are endowed with such ' great magic powers that cause pregnancy, bring bad omen ", functioning as actual participants in the events narrated by the bard.

Scott (1994) noted that, the role of betel in Visayan epics," The Panay epic of humadapnon climaxes with a sixty-two line description of the betel nut being prepared and serve by binokot (ugly and stunted) maidens". .In a Subanon epic, writes Scott quoting from the source, when a hero Sandayo appears before the Datu Daugbulawan ", he was so young that " the sword at his waist scraped the floor". He was told, "Bata, ka'na ginapog: po dapa no p'nlebon (Child, no lime for you: you know not woman)''

Archaeological Evidence

Duyong Cave, located along an isolated stretch of beach in Lipuun Point, Palawan, yielded artifacts associated to a Neolithic burial dated to 2680 BC. Among these was Areca shells with traces of lime have also been found at the Ratu Puti Cave, also in Lipuun Point, not far from the Tabon Cave complex (Andrew, 1955).



METHODOLOGY

Locale and Time of the Study

This study was conducted at Benguet State University. This was conducted on February 2013.

Respondents of the Study

There were 50 respondents of the study taken from the students of Benguet State University. The respondents only involved students who are currently chewing betel nut.

Data Collection

An interview schedule was prepared by the researcher and used to gather relevant information. The researcher personally administered the interview because apart from the responses to each of the specific question asked it was observed that the personal reactions of the respondents may not be reflected in the interview schedule.

Data Gathered

The data gathered include the age, gender, civil status, ethno linguistic group, what year the respondents start of chewing betel nut, the habits of chewing betel nut, the awareness on the effect of betel nut chewing, source of betel nut, source of betel nut, reasons of chewing and consumption of betel nut.

Data Analysis

The data gathered were tabulated and analyzed using simple tool such as descriptive analysis using frequency counts and percentage.



RESULTS AND DISCUSSION

Profile of the Respondents

Table 1 presents the profile of the respondents in terms of age, gender, civil status and ethno linguistic group in consuming betel nut.

Age. Most of the respondents (76%) were aged 16-20 years old and 24% were aged 21-30 years old. This is the most critical stage of the students wherein if not corrected earlier, we will be developing a society of betel nut chewers in the primer school Benguet State university.

Gender. Among the fifty respondents, all (100%) of the respondents were male and zero percent of them were female. It shows that only male is engaged in chewing betel nut in the University.

Civil status. Of the 50 respondents, it was found out that most of the respondents (98%) were single. Result shows that majority of the respondents were unmarried.

Ethno-linguistic group. Thirty Two percent of the respondents were Ibaloi and 28% were Kankana-ey of Benguet, 12% were of Mt. Province Kankana-ey ethnic origin, 12% were of Ilocano, and 10% were Ifugao and only 6% were Kalinga. This shows that chewing of betel nut is being practice by different ethno-linguistic group.



Table 1. Profile of the respondents

PARTICULAR	FREQUENCY	PERCENTAGE
Age		
16-20	20	40
21-25	18	36
26-30	12	24
TOTAL	50	100
Gender		
Male	50	100
TOTAL	50	100
Civil Status		
Single	49	98
Married	1	2
TOTAL	50	100
Ethno-linguistic Group		
Ibaloi	16	32
Kankana-ey (Benguet)	14	28
Kankana-ey (Mt. Prov.)	6	12
Ilocano	6	12
Ifugao	5	10
Kalinga	3	6
TOTAL	50	100

Perceptions Toward Betel Nut Chewing

Perceived benefits. Table 2 reveals the benefits from chewing betel nut as perceived by the respondents. Many of the respondents (48%) perceived that betel nut chewing strengthens teeth, 46% said that it is refreshing, and 32% mentioned that it stimulates appetite. There were 16% who mentioned that it is a treatment to parasitic infections and 14% said that it can suppress hunger. In addition, the perceived benefits include the following; it acts an aphrodisiac (10%), reduce nausea (6%), and it serves as a stimulant (4%).



Table 2. Perceived benefits and effects of betel nut chewing

PERCEIVED BENEFITS	FREQUENCY	PERCENTAGE
Refreshing	23	46
Strengthens teeth	24	48
Suppress hunger	7	14
Stimulate appetite	16	32
Treatment to parasitic infections	8	16
Act as an aphrodisiac	5	10
Reduce nausea	3	6
Stimulant	4	8

*Multiple responses

Perceived effects of betel nut chewing. Table 3 shows the perceived effects of betel nut chewing. Majority of the respondents (54%) claimed that the gums and teeth discoloration is the common perceived effect of chewing betel nut. The respondents also cited gum disease (16%), oral submucosal fibrosis (14%), increased heart disease (12%) and lastly mouth ulcer (4%) as the perceived effects of chewing betel nut. This finding shows that students are aware of the effects of chewing betel nut.

Table 3. Perceived effects of betel nut chewing to respondents

PERCEIVED EFFECT	FREQUENCY	PERCENTAGE	RANK
Gum and teeth discoloration	27	54	1
Mouth ulcer	2	4	5
Gum disease	8	16	2
Increased heart disease	6	12	4
Oral submucosal fibrosis	7	14	3
TOTAL	50	100	

Ulysses (1984) mentioned and claimed that the disadvantages of betel nut chewing



overweigh any beneficial effects to the body. Aside from the adverse effects enumerated above it has more detrimental effect to human.

Reasons Influencing Students to Chew Betel Nut

Table 4 shows the reasons of students for chewing betel nut. The respondents rated the different reasons whether they strongly agree (5), Agree (4) undecided (3), disagree (2) and strongly disagree (1).

The respondents disagreed that they chew betel nut because they are influenced by peers, it is beneficial to health, and chewing out of curiosity. They strongly disagree that they were influence by family members while they were undecided on cultural practices. On the other hand, the respondents agreed that they are chewing betel nut as an alternative to smoking cigarette and other vices. This finding implies that the only reason students chew betel nut is to avoid smoking cigarette and other vices like drinking liquor. The student were trying to stay away from the smoke but forgot Berrelson and Steiner, (1964) the aura of “red lips” Noli (1996) and the untoward effect to health. They are unaware of the outward attitudes, personality, motives and expectation of chewing betel nut (Robbins, 1988).



Level of Awareness on the Health Effects of Chewing Betel Nut

Table 5 reveals that 80% of the respondents are aware of the negative effects of betel nut chewing while 20% were not aware.

Level of awareness on the health effects of betel nut chewing. Table 5 presents the level of awareness of the respondents on the health effects of betel nut chewing. It can be observed from the table that 26% were very much aware, 30% were aware and 24% were slightly aware while 20% were not aware.

Reasons for being unaware. Table 5 shows the reason why the respondents are not being aware on the health effects of chewing betel nut. Among the respondents who were not aware 50% said they are not aware because they are not interested to know while 20% says nobody informed them and 30% said that there was no available information.

Table 5. Level of awareness on health effects of chewing betel nut

PARTICULAR	FREQUENCY	PERCENTAGE
Awareness on the health effects		
Aware	40	80
Not aware	10	20
TOTAL	50	100
Level of awareness		
Not aware	10	20
Slightly aware	12	24
Aware	15	30
Very much aware	13	26
TOTAL	50	100
Reasons for Not Being Aware		
Not interested to know	5	50
Nobody inform me	2	20
No available information	3	30
TOTAL	10	100



Consumption and Expenditure on Betel Nut Chewing

Daily consumption of betel nut. Table 6 shows the quantity of betel nut and piper vine leaves consumed daily by the respondents. The result shows that the respondents consumed different quantities of betel nut and piper vine leaves daily. The highest number of betel nut and piper vine leaves consumed was 17 pieces each by 3 respondents. This is followed by 5 betel nuts and 10 piper vine leaves by 2 respondents, 5 betel nuts and 7 piper vines leaves by 1 respondent, 5 betel nut and 5 piper vine leaves by 1 respondent, 4 betel nuts and 8 piper leaves by 1 respondent, 4 betel nuts and 4 piper leaves by 2 respondents, less than five betel nuts and 5 piper leaves by 2 respondents, 3 betel nuts and 12 piper vines by 1 respondent, 3 betel nuts and 8 piper vine leaves by 5 respondents, 3 betel nuts and 6 piper vine leaves by 3 respondents, 3 betel nuts and 3 piper vine leaves by 2 respondents, 2 betel nuts and 5 piper vine leaves by 3 respondents, 2 betel nuts and 4 piper vine leaves by 2 respondents, 2 betel nuts and 3 piper vine leaves by 4 respondents, 2 betel nuts and 2 piper vines leaves by 3 respondents, 1 betel nut and 4 piper vines leaves by 2 respondents, 1 betel nut and 1 piper vine leaf by 8 respondents, and $\frac{1}{4}$ betel nut and 2 piper vine leaves by 4 respondents. It can be observed that some consumed less betel nut with more piper vines leaves because they divide the betel nut into half or even into four. Some also divide the piper vine leaf into half. There were more respondents 16% who consume 1 betel nut and 1 piper vine leaf per day. This was followed by 3 betel nuts and 8 piper vine leaves with 10%.



Table 6. Different mixtures of betel nut consumption

PARTICULARS	FREQUENCY	PERCENTAGE
17 betel nuts and 17 piper vine leaves	3	6
¼ betel nut and 2 piper vine leaves	4	8
2 betel nuts and 2 piper vine leaves	3	6
4 betel nuts and 4 piper vine leaves	2	4
3 betel nuts and 3 piper vine leaves	2	4
2 betel nuts and 3 piper vine leaves	4	8
Less than five betel nuts and 5 piper vine leaves	2	4
2 betel nuts and 5 piper vine leaves	3	6
5 betel nuts and 5 piper vine leaves	1	2
1 betel nut and 1 piper vine leaf	8	16
3 betel nuts and 8 piper vine leaves	5	10
3 betel nuts and 6 piper vine leaves	3	6
1 betel nut and 4 piper vine leaves	2	4
4 betel nuts and 8 piper vine leaves	1	2
2 betel nuts and 4 piper vine leaves	2	4
3 betel nuts and 12 piper vine leaves	1	2
5 betel nuts and 7 piper vine leaves	1	2
5 betel nuts and 10 piper vine leaves	2	4
1 betel nut and 2 piper vine leaves	1	2
TOTAL	50	100



Expenditure on betel nut chewing. The students differ in the frequency of buying betel nuts. Some buy betel nuts on a daily basis but some buy on a weekly basis. Although all of them chew betel nut every day, some buy weekly and divide it through the whole week or they beg from other chewers. The weekly expenditure of the respondents in buying betel nuts mixture is presented in Table 7. Majority of the respondents (56%) spent about P151- P300. Thirty percent spent P301- P600 while 14% spent P15- P150 weekly. This finding indicates that students are spending a significant portion of their allowance on betel nut chewing. This high expenditure on betel nut may not necessarily mean that the students consume much betel nut because some buy the betel but and share it with their friends.

This was characterized by the friendship or offering betel nut to an acquaintance or stranger to gain gestures of friends, whoever offers more will spend more. Friends who just chew for several sessions spend less. Students who gained more friends spend more for betel nut and offer to gain more friends. This confirms the statement of Scott (1994).

Table 7. Expenditure on betel nut chewing

AMOUNT SPENT (in pesos)	FREQUENCY	PERCENTAGE
15.00 – 150.00	7	14
151.00 – 300.00	28	56
301.00 – 600.00	15	30
TOTAL	50	100

Bowring (1958) studied that in some parts of the Philippines, Betel nut chewing could provide a good source of revenue. Practically in the entire parts of the world we can



fine betel nut available for consumption.

In Quiapo, Lewis (1994) studied that “Bombay” is there prior customer. Practically, outside our school premises in small stores you can find betel piper leaves displayed where customers could easily buy.

Frequency and Time of Chewing Betel Nut

Table 8 reflects that 44% of the respondents chew betel nut more three times a day. This is followed 22% who chew at least three times a day. The once a week frequency had 18% respondents, twice a day had 10% , once a day had 2% and occasionally is 4%. As to the time of chewing betel nut, 40% said that they chew betel nut at 6 o’clock in the morning and in the afternoon. Thirty two percent chew betel nut anytime of the day, 10% chew at 12 o’clock noon and 6 o’clock in the afternoon while 6% chew at 1 o’clock in the afternoon before going to class.

Table 8. Frequency and time of chewing betel nut

PARTICULARS	FREQUENCY	PERCENTAGE
Once a day	1	2
Twice a day	5	10
At least 3x a day	11	22
More than 3x a day	22	44
Once a week	9	18
Occasionally	2	4
TOTAL	50	100

Table 8. Continued...

PARTICULAR	FREQUENCY	PERCENTAGE
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Anytime	16	32
6 o'clock and 6 pm	20	40
1 o'clock	3	6
12 o'clock and 3 o'clock	5	10
TOTAL	50	100

Source of Betel Nut.

Table 9 reveals that 38% of the respondents were purchased their betel nut from the sidewalk vendors, 34% bought/given by their friends, and 28% get the betel nut from their own plantations. Perhaps their supplies of betel nut were sent by their parents.

In the entire world we can find betel nut readily sold in wet market. It is very in demand especially for the travellers who do not want to take sleep while travelling in the far distance. Bowring (1958) claimed that the early Spanish occupants have been planting betel nuts at the foot of Sierra Madre Mountain for a continuous supply of betel nut in Manila.

Table 9. Source of betel nut

PARTICULAR	FREQUENCY	PERCENTAGE
Sidewalk vendor	19	38
Own plant	14	28
Friends	17	34
TOTAL	50	100

Practices in Chewing/Disposing Betel Nut

Practices in chewing betel nut. Table 10 shows the practices in chewing betel nut



with other ingredients. There were 46% who prefer the mixture of betel nut and piuper vine leaf with tobacco indicating that the nicotine content mixed of it makes them addicted to repeat chewing the combination, Rooney (1993). There were 26% who prefer chew the mixture of betel nut with piper vine leaf and lime while 14% chew betel nut only. Six percent mix pandan leaf with the betel nut, piper vine leaf, lime and tobacco while 8% still add pudo with the former mixture.

Practices in disposing chewed betel nut. Table 11 shows that 18% of the respondents dispose their chewed betel nut anywhere in the campus. This implies that they are irresponsible students who do not care about the sanitation of the school. Thirty two percent mentioned that they put their waste in a particular place or designated area which probably is at the back of the building and 12% dispose their waste in trash cans.

Table 10. Practices in betel nut chewing

INGREDIENT	FREQUENCY	PERCENTAGE
Betel nut only	7	14
Betel nut with piper leaves and lime	13	26
Betel nut, piper leaves, lime & tobacco	23	46
Betel nut, piper leaves, lime, tobacco and pandan leaf	3	6
Betel nut, piper leaves, lime, tobacco, pandan leaf and pudo	4	8
TOTAL	50	100



Table 11. Disposal of chewed betel nut

PARTICULAR	FREQUENCY	PERCENTAGE
Anywhere	9	18
At a particular place or designated area	16	32
In a bottle	19	38
In the trash can	6	12
TOTAL	50	100



SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

This study aimed to know the perception of students regarding chewing betel nut from the different colleges who were interviewed at random. Data gathering was done through personal interview guided by questionnaire. The study was conducted on February 2013. Result of the study showed that majority of them 16 to 25 years old. Most were single and they belong to Ibaloi and Kankanaey.

The findings showed that the respondents perceived different benefits from chewing betel nut like refreshing, strengthens teeth, stimulate appetite, treatment to parasitic infections, and suppress hunger. Some even perceived that it is aphrodisiac. On the effects of chewing betel nut, respondents mentioned that it results to gum and teeth discoloration, gum diseases, increased heart disease, and oral sub mucosal fibrosis. The only factor that influenced the respondents to chew betel nut was that chewing betel nut is a substitute for smoking cigarette and to avoid other vices. Many of the respondents were aware on the health effects of chewing betel nut and only a few were not aware for the reason that these students were not interested to know the information and that there were no information available to them.

It was found that the respondents differ in the quantity if betel nut and piper vines leaves they chew, including the mixture included and the number of times they chew betel nut in a day. The finding also revealed that students spent a high amount in buying betel nut mixture. Many of them buy the betel nut mixture from sidewalk vendors while others get it from their own plantations. The finding also revealed that some students chewing



betel dispose their waste anywhere in the campus, some put in bottles, in designated areas and in trash cans.

Conclusions

The following conclusions were drawn from the findings of the study.

1. Majority of the students agreed that betel nut chewing is alternative to cigarette smoking. Betel nut chewing is a way of gaining friends from different tribes and the practice of doing so is influenced by their peers.

2. The frequency of student in chewing betel nut were once a day, twice a day, at least 3x a day, more than 3x a day, once a week and occasionally.

3. The expenditure was gauged on the instance of more friends more expenses however, in the long run more friends more assets. Some chewers just chew betel nut for the sake of celebrations and for special occasions.

Recommendations

Based on the findings, the following are recommended:

1. Our school is a primer school and so it is recommended to have standard of keeping values. The school having formulated policies on student conduct include the prohibition of spitting momma, however, adherence to this policies should be strictly observed by the students.

2. The school should emphasize to the students that betel nut chewing is cancerous in nature.



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