

A large field of tall, slender palm trees, likely betel nut palms, stretching into the distance under a clear blue sky. The trees have green fronds and light-colored trunks. The ground is covered with green grass and some low-lying plants.

Betel Nut Chewing Results

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EN202-01

Dr. Kimberly Bunts-Anderson



Research Question

- What influenced people to start chewing betel nut?
- Is chewing betel nut addictive?
- Is chewing betel nut part of their culture?
- How does chewing betel nut affect the insides of the mouth?

Research Methods

Two Different Types of survey:

- People who Chew
- People who do not chew

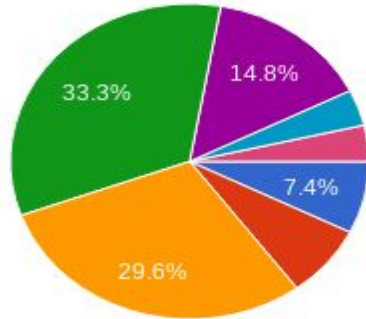
Letters to experts: Guam

- Paulino Yvette
- Sarah Filush

Survey 1: People Who Chew

Have you ever chewed?

27 responses

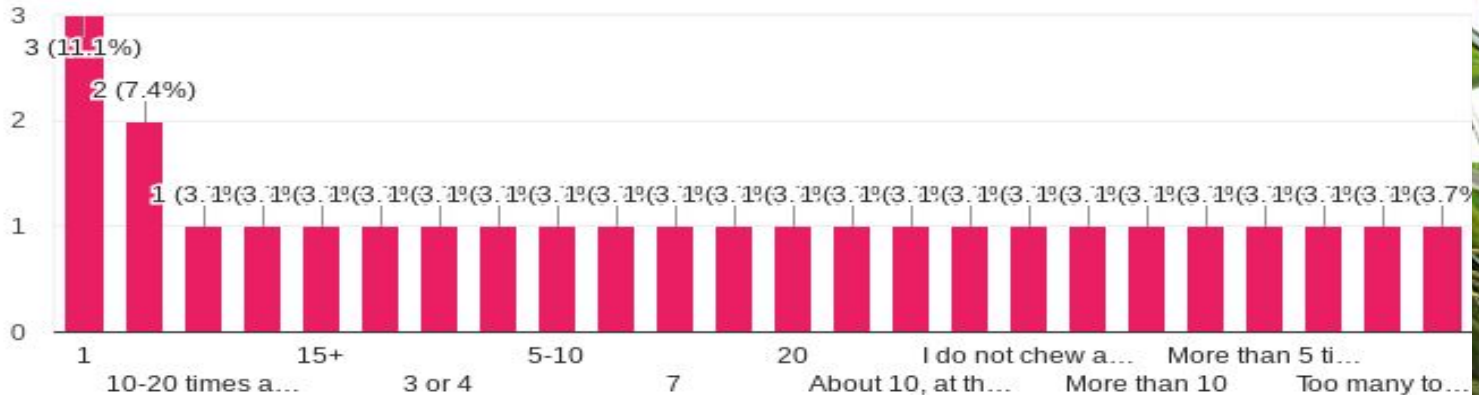


- Betel nut by itself
- Betel nut with lime, and pepper leaf
- Betel nut with lime, pepper leaf, cigarette
- Betel nut with lime, cigarette
- Betel nut lime, cigarette, mint (seed)
- 12
- Betel but, alufuk, leaf

Survey 1: People Who Chew

How many times do you chew in one day?

27 responses



Survey 1: People Who Chew

What is the main reason why you chew?

It's a habit

It helps calm my nerves.

I was force by my friend to try it out.

peer pressure

Stress relief

Reliever

It helps to relax.

Stress relieve

I enjoy it! And it helps with bordum

Stress

Social

Culture

There's just something about it

Ppl around me chews

Stress, or just a habit

Influence by others

Chamorro custom, families influence

It substitutes as food because I'm trying to diet so I chew so I won't get hungry!

Stress reliever

Taste

Craving & It Makes Me Active

Sense of relief and to relax

A habit i picked up instead of smoking

Keep me motivated

It's addicting

I got bored not having a habit so i decided to pick up on chewing and now i can't seem to stop.

Gives me stimulation of energy, helps curb my addiction to smoking.

Survey 1: People Who Chew

How long have you been chewing?

27 responses



Survey 1: People Who Chew

Are you addicted to chewing betel nut?

27 responses

No (6)

No (2)

Yes (2)

Yes. (2)

Of course.

no

It is not an addiction it is a habit

No.

I dont know. Probably

yes

Not really. Sometimes i let the day pass without chewing. Trying to quit.

No, cause I don't use tobacco.

Survey 1

Do you think chewing betel nut is an addiction? Why?

27 responses

Yes and because it is hard to quit

I guess I think it is, at least for me. I say that because I actually crave for it.

yes, I think that it is an addiction because my everyone my family are chewing. And i know that they could not stand without chewing for a day.

Yes, I think that it is an addiction. To be honest I don't chew, but I have seen a lot of people who couldn't stand a day without chewing.

For me it's not, and for some people it is an addiction

Yes, because i find it hard to quit and so do many other people.

No.

Yes because of the nicotine (cigarette)

Oh yeah, for sure. My explanation is the nicotine

It becomes a habit

Yes, it's hard to quit chewing for some people, they go through withdrawal symptoms

Do you think chewing betel nut is an addiction? Why?

27 responses

Yes because when you start chewing or gonna get used to it than your gonna want to chew every day

Yes, because some ppl smoke & chew nicotine (tabacco) with chewing

Yes, when youre so addicted you dont even notice how many times youre chewing and its becomes a habit more than likely an addiction.

Yes, but only if you like how it taste and make you motivated.

yes, because it's a very addictive habits

Yes, because it feels good to chew

Yes, because it becomes a habit that is hard to quit.

Yes. Nicotine for tobacco chewers

No. But With Tabacco It Is.

I don't believe its an addiction, because it is something we have practice culturally. I have tried quitting but chose to chew again because i realized that we will all die one day and i want to die doing what i love. Also, it is proven that healthier people tend to die faster from other diseases. So betel nut chewing shouldn't be an issue. If our teeth is colored by this habit. Then guess what, welcome to the new trend! Who knows its our style!

Survey 1

Do you chew because it is part of your culture?Why?

27 responses

No. (2)

Yes (2)

No, I honestly believe chewing, for the most part and from most people, is a disgusting habit now than it is in our culture.

I chew because of my culture and also because I was force to chew.

No I only chew because I was forced to try it.

yes because it is part of my culture

No, i chew because it help relieves stress.

I'd say Yes, part of it, because now we are adding tobacco

Yes

It is a part of my culture, but i think it was peer pressure when i started.

Nope. The chewing of bettle nut is for the elders.

Yes, mostly socially

Do you chew because it is part of your culture?Why?

27 responses

Yes, mostly socially

A little bit

No its not about the culture it's just a habit & seeing ppl chew

No

Yes, because I am chamorro.

yes, because I grue up seeing my families, grandparents & dad chew

No.

Yes.

Yes. Because betel nut benefits us in many ways. I can list them but you are the researcher so you should know what i'm talking about. I've done this study and as a betel nut chewer, I can argue that betel nut is beneficial to the body as well!

Not really. No.

No

Survey 1

Are you worried about the side affects of chewing? Why?

27 responses

Yes, because I've seen the outcome of oral cancer.

Yes I am, I'm actually slowing down. I'm trying to quit.

Yes, because I had seen some people who are diagnose from chewing. One of them was my relative and the doctor had to cut off one part of his mouth because of chewing too much.

Yes, I think that it can cause mouth cancer and stinky breath. Most chewer have never realize that chewing is a bad habit. I had seen people who suffer from the mouth cancer, which it mostly cause from the chewing too much.

no but it is a 50/50 for me

Yes, i worry about oral cancer. But i try my best to limit myself.

Yes.

No because I quit 2 years ago

Not worried

Nope. You die even if you dont have a habbit

Not really because I barely chew and I know I can control how many times I chew in a week.

Are you worried about the side affects of chewing? Why?

27 responses

Not really because I barely chew and I know I can control how many times I chew in a week.

No

Not really because it's part of me and because my culture does it

Yes, because it damages your mouth

Yes. It can cause mouth cancer

Yes, because it cause mouth diseases.

yes, and it's are to quit

Yes, I'm addicted to chewing and I really want to stop because I'm afraid of getting oral cancer but I can't seem to stop

Sometimes

Yes. Health reasons

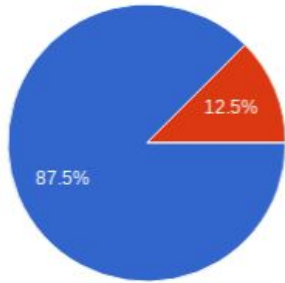
Yes. Cause it can cause Mouth & Throat cancer

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Survey 2: People Who Don't Chew

Do you know anyone that chews?

16 responses



- Yes
- No
- Maybe

Survey 2: People Who Don't Chew

Do you think chewing is a bad habit for people that chew? Why?

16 responses

Yes- it can cause health problems

Yes because it can lead to mouth cancer.

Yes, chewing can lead to oral cancer.

Yes because it could lead to oral cancer.

I do think that chewing is a bad habit for people because it could ruin a person's pallet – which would then affect their sensory for tasting. Also, their teeth would become affected through chewing because it can cause discoloration and the "spice/tingle" one would feel from chewing would also affect their upper lips because your lips aren't meant to tingle for an elongated amount of time.

Yes. Because it is addictive.

Yes. Because chewing can cause serious health issues

Yes because most people include tobacco into their mix

Mouth Cancer, Stains Teeth, Bad Breath

Yes, because it can lead to cancer.

Yes because they complain they're broke

Do you think chewing is a bad habit for people that chew? Why?

16 responses

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Yes. Because chewing can cause serious health issues

Yes because most people include tobacco into their mix

Mouth Cancer, Stains Teeth, Bad Breath

Yes, because it can lead to cancer.

Yes because they complain they're broke

Yes, not only is it expensive and makes a persons teeth ugly, but it is unhealthy.

Yes it's a bad habit because it causes cavities.

No, only when you start adding ingredients other than Pugua, Afuk and Pupulu.

Yes, Can develop oral cancer

I think it is a bad habit more specifically if that specific person is not maintaining good oral hygiene

Survey 2: People Who Don't Chew

Do you think that chewing is an addictive habit? Why?

16 responses

Yes- the mix contains products that are addictive, such as cigarettes

Yes because it is like cigarettes.

Just like regular cigarettes i think chewing can be addicting too

I'm not sure but yes. Because people who are chewing the betelnut does not stop chewing it?

I actually do not find chewing to be addictive because I think that it all depends on a person's choice -- to continue or to not continue.

Yes. It seems a addictive habit to the people around me.

Yes it is. The first time tried, most people usually get addicted

Yes because tobacco

yes, it just out of habit, like a routine, they feel the need too

Yes, there are addictive substances that can be found in betelnut.

Yes because people chew to either be like the rest or just to keep them awake

Yes, people depend on chewing. Maybe it's the sensation they get from it.

Do you think that chewing is an addictive habit? Why?

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Yes, people depend on chewing. Maybe it's the sensation they get from it.

Yes it's an addictive habit because with what people say it's an energizer. It makes you hyper.

Yes. When mixed correctly it makes you relax and wanting more, thus Addiction.

yes, they get used to it

Yes, because I personally know a couple people that chews just as much as a person who is addicted to smoking

Survey 2: People Who Don't Chew

Do you think when people chew it is part of their culture? Why?

16 responses

Yes- that is what they grew up with

Some because they grew up watching their relatives chew so they eventually adapted to the habit.

culture can take part in a way, most people here chews because they grew up with people who chews so yes, i think culture plays a part in it.

Yes, because the children see their parents chew and that could affect as one of the factor that would lead the child to chew also.

I actually do not think that chewing originated from the locals, if that's what your primary focus is on. I think that chewing had developed over the years, and changed whilst also maintaining the same concept – to chew and to spit. I think that chewing can forms bonds between people, and that it stimulates one's self perspective.

Because no one else has done it in my country, so it seems to be a characteristic of this country or area

No. I believe it's a choice

Most say it is, but I think it's an excuse.

Yes, its been done throughout generations,

Yes, they can be part of their culture.

Do you think when people chew it is part of their culture? Why?

16 responses

Because no one else has done it in my country, so it seems to be a characteristic of this country or area

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Yes, its been done throughout generations,

Yes, they can be part of their culture.

It's not part of their culture. They inherit it from different parts of Asia

No it is definitely not, I know for a fact that ancient Chamorros did not chew betel nut with tobacco. As time progresses, new things happen so how people mix their chew today was not how it was made long time ago.

I think it is part of the culture because it plays an important role in social customs.

Yes. Chewing betelnut has been around since our ancestors, who use it for relaxation of the muscles and pain relief.

yes, when something is a part of your culture, it gets hard to quit that habit

I partially believe so, it could be a part of their culture, but it doesn't always mean it's not a choice

Survey 2: People Who Don't Chew

Do you think chewing betel nut cause mouth cancer?Why?

16 responses

Yes- from lime and cigarettes

Yes because of the cigarette.

Yes, my grandmas friend died of mouth cancer and her friend was addicted to chew.

Yes, that is how I learned it when I was in school.

I do think that betel nut does cause mouth cancer, but only because someone presented mouth cancer in terms of chewing. I do not remember why or how it caused cancer, though.

Yes. It is scientifically proven.

Yes. I've seen reliable sources regarding betel nut and mouth cancer

Yes because of the toxic stuff and chemicals in the tobacco

yes, the chemicals in the nut and cig are very harmful

Yes, they can damage your gums.

Yes because of its chemicals and ingredients

Yes, or it depends what they chew it with. Tobacco is the main disease in the mix. It may take awhile, but it is causing damage in the mouth.

Do you think chewing betel nut cause mouth cancer?Why?

16 responses

Or chewing. I do not remember why or how it caused cancer, though.

Yes. It is scientifically proven.

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Yes, they can damage your gums.

Yes because of its chemicals and ingredients

Yes, or it depends what they chew it with. Tobacco is the main disease in the mix. It may take awhile, but it is causing damage in the mouth.

Yes it does causes mouth cancer because it is chewed with tobacco.

Yes. It has been medically proven that if you mix it with tobacco it can cause oral cancer of the gums.

Yes

Yes, because it is a carcinogen

Survey 2: People Who Don't Chew

Why do think people are addicted to chewing?

16 responses

Possibly from the nicotine of the cigarette

Because they are used to it

it has nicotine in it and thats why people are so addicted to it, just like cigarettes

Not sure.

No

taste?

Because i guess it relieves them from stress similar to smoking cigarettes

Tobacco

culture, habit

It's either their culture or because of their culture

Because they say it's their culture when it's not

The feeling they get from it, but it still doesn't mean it's good.

Why do think people are addicted to chewing?

16 responses

no

taste?

Because i guess it relieves them from stress similar to smoking cigarettes

Tobacco

culture, habit

It's either their culture or because of their culture

Because they say it's their culture when it's not

The feeling they get from it, but it still doesn't mean it's good.

Because the Tobacco they add into the betel but makes them hyper.

People form their own addictions. Only, they can decide to quit their addiction.

I feel like it's more of influence and part of their culture.

They're in favor of the taste or the high that they get from it, or because they're just plain and simple, addicted to the habit

Letters to Experts



Roshae Francine Masga Manglona <roshae.manglona@my.marianas.edu>

to paulino

Apr 5



Dear Paulino Yvette,

Hello, my name is Roshae Manglona. I am currently a student at Northern Marianas College. I am doing a research project on chewing betel nut in the CNMI. I'm writing this letter to request an interview with you on the topic of chewing betel nut. I am curious as to how many people in CNMI and including Guam chew. And why is it that they are addicted to the substance. I read that you did studies on people who chewed betel nut and how it harms a person. As an expert in your field, your comments in response to a few questions would be greatly appreciated. If you want a copy of my research essay, feel free to email me. Thank you.

1. Why is chewing betel nut an addiction?
2. How does this cultural habit affect the health of an individual, especially those who chew have been chewing betel all their lives?
3. In your studies how many people find it hard to stop chewing betel nut?
4. For people who chew how many people have been diagnosed with mouth cancer due to chewing betel nut?
5. If a person started chewing at a young age would they have a long-term effect?
6. If a person brushes their teeth constantly and still chew would they have any problems?
7. What substance in chew make hard for them to stop chewing?
8. Do people chew because they are being pressured by other people chewing betel nut?
9. As an expert how long would a person withstand not chewing for a whole week?

Letters to Experts



Yvette Cepeda Paulino

to me

Apr 10



Dear Roshae,

Thank you for your patience. My response follows.

1. Chewing of areca nut is often accompanied with the use of tobacco. Nicotine is an addictive chemical found in tobacco. Studies on the addictive property of the areca nut are ongoing.
2. The health effects of areca nut includes cancer (see IARC Monograph Volume 85 - <http://monographs.iarc.fr/ENG/Monographs/vol85/>) and many other chronic conditions. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4080659/>
3. This study is still ongoing, so we are unable to report the results.
4. Our previous studies looked particularly at chewing and the risk of oral precancerous conditions. In general, chewers that chew with tobacco were more likely to have oral precancerous conditions than those who chewed betel nut without tobacco. <https://www.ncbi.nlm.nih.gov/pubmed/25495475>
5. Absolutely, especially with the addition of tobacco.
6. Yes, especially with the addition of tobacco.
7. Tobacco makes it hard for chewers who add tobacco. The addictive property of the areca nut (without tobacco) is still under investigation.
8. This has been reported by some chewers in our qualitative studies. <https://www.ncbi.nlm.nih.gov/pubmed/25678943>
9. Although I don't have the number you're seeking, I can say it's tough for some people to stay away for even 3 days. However, it is very possible, as seen in our current study. We won't be able to release the results until we have completed the study. We are struggling with recruitment. We could certainly use some help recruiting into the Saipan BENIT Study.

Best,
Dr. Paulino

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Letters to Experts

Betelnut Questionnaire – Sarah Filush Camacho

Do people chew because it is part of their culture?

Based on the interviews I conducted, all chewers stated chewing was a part of their culture.

Do you think that some people will not stop chewing because it is part of their culture?

I don't believe the reason they **wouldn't stop** chewing would be because of culture. The betelnut itself is addictive, which makes chewing difficult to quit.

Do people chew because they are addicted to it?

The betelnut itself contains an addictive ingredient called arecoline. This ingredient in combination with other addictive ingredients such as tobacco and/or alcohol make chewing the nut more addictive.

At what do you think people started chewing betel nut?

Based on studies performed at the University of Guam, research finds that children as young as 8 years old are introduced to chewing betelnut.

If you help spread awareness to the people that chew, why does that person or anyone continue to chew betel nut with the fact that they know the side effects of chewing?

Like any addictive substance, it's difficult to quit unhealthy and detrimental habits despite knowing the side effects. Just as it is difficult other addictive habits such as smoking, drinking alcohol, large consumptions of sugary and fatty foods, caffeine, etc. However, because betelnut's repercussions are more rapid, severe, and less discriminating, the urgency of quitting is more critical. I believe there needs to be more awareness on the emotional, physical, and financial effects it has on not only the individual but the family more importantly. The Commonwealth Cancer Association is working diligently on this mission which I believe will save many lives.