

Perceptions of Behavior Consuming Betel Nut in Poverty Communities Kupang West Timor Indonesia

⁽¹⁾Ardent Titu Eki, Academic of Social Work Kupang

⁽²⁾Christina Ngadilah, Health Polytechnic of the Ministry of Kupang

Abstract:- Introduction: It is noted in the literature that poverty affects health and dental health. The behavior of consuming betel nut will cause health losses, both general health and dental health. Poor people who consume betel nut add to the burden of life, moreover government assistance and government facilities to support the poor are not sufficient to live a decent life. The purpose of this study was to analyze the relationship between culture and the perception of low-income people about consuming betel nut with disease and disease and oral health, and to analyze public perception about consuming betel nut and its consequences. **Method :** This observational analytic study employed a cross sectional design. The sub district South Amfoang and Takari, Nekamese and Kupang Centre. Those selected areas had the most population. **Criteria inclusion** the subject of this study were the inhabitants aged 17-50 years old and to determine low income, the researcher selected respondents who received BLT (Direct Cash Assistance) assistance from the government. The village government determines the poor who receive BLT under certain conditions. As much as 363 peoples were randomly chosen from 146,597 between the ages of 17-50 years. using Lameshow sample size formula, calculated using estimated proportion population formula. The acquired data were analyzed by means of path analysis by PLS 3.2.7 to find a correlation among variables. **Result :** Most low income people have a wrong perception about consuming betel nut in relation to health and dental health. There is a relationship between culture and people's perceptions. There is a relationship between culture and the behavior of consuming betel nut. **Conclusion:** Most of the betel nut consumers are poor families, whose economy should be focused on food, clothing and education and not buying betel nut which will have an impact on various diseases including low birth weight babies and stunting toddlers. Perception of health-related risks plays an important role in motivating changes in health behavior in poor communities in Kab, Kupang

Keywords:- Perception, Betel Nut Behaviour, Health And Dental Health.

I. INTRODUCTION

Poverty and low income are related to health (AAFP)¹. According to Titu Eki ² that poverty is the inability of a person or group of people to fulfill basic needs such as food, clothing, housing, education and health. This year, due to the impact of the COVID-19 pandemic, Indonesia is no longer a middle-upper-income country but has become a lower-middle-income country ³. Poverty affects dental health and health such as caries and periodontal disease in many literatures⁴⁵⁶⁷. Low income communities in Timor still maintain the culture and behavior of consuming betel nut. In a previous study in Oelnaineno village in Kupang district rural area betel nut consumption reaches almost 80% in elementary school children ⁸. Unlike in India, there is a special package that tastes sweet especially for children ⁹, while in Timor, Kupang district, children and adults consume betel nut with the same ingredients. The purpose of this study was to find out the relationship between perceptions of dental health and systemic disease with betel nut consumption behavior in low income communities in Timor, Kupang Regency. the relationship between local culture and the perception of consuming betel nut on dental health and health in low-income people.

II. METHOD

This observational analytic study employed a cross sectional design. The sub district South Amfoang and Takari, Nekamese and Kupang Centre. Those selected areas had the most population. **Criteria inclusion** the subject of this study were the inhabitants aged 17-50 years old and to determine low income, the researcher chose respondents who received BLT (Direct Cash Assistance) assistance from the government. The provision of BLT was directly related to poverty rates. The village government determines that poor people receive BLT with the following conditions: 1. Poor/extreme poverty families living in the village, 2. Loss of livelihood, 3. Having family members who are susceptible to disease, 4. Poor families receiving social safety nets others who have stopped, 5. Poor families affected by covid-19, (Mulyadi, 2021), this has been selected by the village head. As much as 363 peoples were randomly chosen from 146,597 using the Lameshow sample size formula, calculated using an estimated proportion population formula. The criteria for the respondents were male and female who chewed betel nut, and those who did not from those 4 selected areas. The respondents were asked to fill a

questionnaire. The acquired data were analyzed by means of path analysis by PLS 3.2.7 to find a correlation among variables. Respondents' perceptions were measured regarding

their relationship with dental and oral diseases and common diseases caused by betel nut which will affect the behavior of consuming betel nut.

III. RESULT

Table 1: Frequency distribution of chewing betel respondents per day by type gender and age group in Low Income Community in Kupang Regency

Gender, age/consumption of betel nut per day		Chewing betel per day								Total		P
		High income		Low income 1-2 times per hari		Low income 3-4 times per hari		Low income 5 times per day/ lebih		f	%	
		f	%	f	%	f	%	f	%			
Gender	men	39	22,2	19	10,8	57	32,4	61	34,7	176	100	p = 0,061
	women	34	18,2	34	18,2	44	23,5	75	40,1	187	100	
	Total	73	20,1	53	14,6	101	27,8	136	37,5	363	100	
Ages / year	≤20	8	19,5	21	51,2	5	12,2	7	17,1	41	100	p = 0,000
	21-30	8	12,9	6	9,7	28	42,2	20	32,3	62	100	
	31-40	24	23,8	12	11,9	25	24,8	40	39,6	101	100	
	41-50	33	20,8	14	8,8	43	27,0	69	43,4	159	100	
	Total	73	20,1	53	14,6	101	27,8	136	37,5	363	100	

The prevalence of consuming betel nut in low-income people 5 or more times a day is 37.5%, 27.8% 3-4 times a day, the remaining 1-2 times a day. The results showed that there was no significant effect between gender and the frequency of consuming betel nut.

The prevalence of consuming betel nut 5 times or more based on the age group, the 41-50 year age group was the highest at 43.4% and the least was the ≤20 year age group as much as 17.1%. A total of 37.5% (which is the highest prevalence) consume betel nut 5 or more times a day. There was a significant effect between age groups and the amount of betel nut consumption per day (p<0.005).

The perception measured is from the perception of oral health the questions include when to brush your teeth, how many times to brush your teeth and so on. As for the perception of the dangers of betel nut in causing various diseases, it concerns, among other things, the effect of betel nut on the heart, asthma, kidney.

Table 2. Perceptions about dental and oral health as well as perceptions about the disease caused by consuming betel nut in low income community. Timor Kupang District

Variabel	\bar{x}	SD	Nilai Minimal	Nilai Maksimal
Perception betel quid about oral health	2,051	0,972	1	4
Persepsi betel quid about systemic disease	1,978	0,865	1	4
Persepsi (Total Skor)	2,015	0,920	1	4

Perceptions about dental and oral health value is quite low, meaning that their perception of dental and oral health associated with consuming betel nut is still low. Likewise, their perceptions of diseases associated with consuming betel nut are also still low.

Table 3 Path Coefficients

Path	Original sample Asli (O)	Sample mean (M)	Standar Deviasi (STDEV)	T Statistik (O/STDEV)	P Values
Oral health Percption-> Behavior Betel Quid	-0,020	-0,018	0,016	1,243	0,214
Systemc perception-> Behavior Betel quid	-0,013	-0,014	0,017	0,760	0,448
culture -> Oral health's perception	-0,185	-0,188	0,051	3,654	0,000
culture-> systemic disease's perception	-0,111	-0,111	0,053	2,111	0,035

Path of Perception of Oral Health on Betel nut consumption Behavior , with p-value of 0.214; t statistic 1.243; and path coefficients -0.020. This shows that the exogenous variable of Health and Safety Knowledge has no influence on the endogenous variable Behavior because the p-value is more than 0.05 and the t-statistical value is less than 1.96.

Path Perceptions of the systemic effects of betel nut on the behavior of consuming betel nut with a p-value of 0.448; t statistic 0.760; and path coefficients -0.013. This shows that the exogenous variable Knowledge of Betel Pinang has no effect on the endogenous variable B because the p-value is more than 0.05 and the t-statistical value is less than 1.96. Oko Mama culture affects the perception of dental and oral diseases by -0.185. Oko mama culture has an effect on perceptions of diseases caused by consuming betel nut by -0.111

Table 4. Perceptions of dental and oral health and perceptions of diseases caused by consuming betel nut in the low income community of Timor Kupang District

Themes	perception
perceptions about Dental caries	Identification of dental caries is based on pain and black coloring Small caterpillars of teeth as the main cause of dental caries Sugary foods and drinks strengthen worms, which make cavities/cavities
perception about betel quid and systemic health	It will not cause the most pain, coughing because of the lime. If you get an ulcer, then stop taking it temporarily. Betel nut even causes enthusiasm and enthusiasm in doing daily work
perception about gingivitis	Identified as bleeding gums caused by brushing your teeth hard or brushing your teeth hard using betel nut skin, it's not a problem later eating betel nut will heal itself
perception about betel quid and oral health	Betel nut strengthens the teeth and the teeth do not have cavities because small caterpillars die with betel nut
Oral hygiene practices	Brushing your teeth using betel nut skin is often done, sometimes you also brush your teeth while taking a shower. Only one toothbrush is used alternately, if we have toothpaste we use it but if we don't have one we sometimes use soap
Poor awareness regarding seeking dental care	There are not enough tools to treat teeth, we only rely on betel nut peels to clean teeth with the aim of removing the red and black color that sticks to the teeth. If we have a toothache, we have traditional medicine that is inserted into the cavity of the tooth which will eventually come out of small caterpillars and the pain will be less. Sometimes gargling warm salt water can relieve the pain

Perception according to Ramires is the process by which an individual selects, organizes and interprets information inputs to create a meaningful picture of the world¹¹. Perception has a very significant role in changing a person's behavior¹². In this study, researchers focused on individuals who received BLT (Direct Cash Assistance) from the central government which was channeled through the village government for the poor. According to Wang and Gang, research focusing on individuals has found a very strong relationship between socioeconomic status (SES) and individual health but mediated by lifestyle¹³. Low income communities experience various kinds of problems, including not being able to pay for their own dental care, not having private or government dental insurance, or not being able to take time off work to get dental treatment.¹⁴

Consuming betel nut is a behavior that causes a lot of harm to health¹⁵. Some betel nut consumers know that it is important to keep their teeth and mouth clean. Respondents who consume

betel nut consider that consuming betel nut can nourish their teeth or clean their teeth. This is a different perception from the actual theory of knowledge, because if consume betel nut then there will be major damage to the gum tissue, which will aggravate the condition of the gums and eventually cause the teeth to fall out quickly because they are not supported by healthy tooth supporting tissue.

According to Javed, stated that periodontal disease in people who consume betel nut is more common than others, and people with low socioeconomic status and low education seem to be more affected by periodontal disease than others¹⁶. People with low income also have the perception that brushing their teeth using betel nut will clean their teeth. Even though the skin of the betel nut is very hard, it is usually rubbed on the teeth irregularly so that this is contrary to the proper and proper way of brushing teeth which is healthy for the teeth and will even damage the teeth. Brushing using force can be considered as an independent risk indicator for periodontal disease¹⁷.

People have the perception that consuming betel nut means that they have cleaned their teeth and mouth, because after consuming betel nut they clean their teeth using betel nut. People do not agree that the impact of dirty teeth by betel nut is tooth decay or gum damage. According to the betel nut effect on the periodontal tissue directly on the gum tissue due to the effect of the arecholine contained in the areca nut, or the deposition of calculus due to hypersalivation and increased calcium salt levels, both eventually lead to the destruction of the periodontal tissue. When consuming betel nut, according to Giri, hypersalivation occurs which will increase calculus deposits and increase calcium salts which will damage the periodontal tissue resulting in premature tooth loss¹⁸.

People also do not agree that in the morning after eating and at night before going to bed they brush their teeth because they brush their teeth anytime after eating betel nut. The purpose of brushing teeth is to prevent the formation of plaque containing acidic bacteria so as to prevent caries and gum disease. The ADA recommendation, that you should brush your teeth twice a day, in the morning after eating and at night before going to bed, brush your teeth with soft bristles and use fluoride toothpaste. , brushing teeth for 2 minutes¹⁹. Most users are not aware of the bad effects of using areca nut, and only a small number are aware that it can cause mouth and neck cancer. The addition of using tobacco when consuming betel nut as much as 24.1%, in this study. There is a significant relationship between consuming betel nut and oral cancer and the addition of tobacco when consuming betel nut will exacerbate the incidence of oral cancer²⁰.

Questions about diseases that have been recommended by WHO include oral cancer, cardiovascular and respiratory effects, adverse pregnancy outcomes, dependency, addiction and withdrawal, diabetes and glucose intolerance²¹. Some people agree that betel nut can affect their health, but because they see many people consuming betel nut and do not experience any disease, they continue to consume betel nut. People do not agree that betel nut causes heart disease, or causes interference with pregnancy. This is also due to the lack of knowledge about health so that they cannot distinguish between healthy and symptoms of illness. The use of Bethel Quid is directly associated with an increased risk of a high premature Ventricular Contraction (PVC) in patients with cardiopulmonary symptoms. Higher risk among patients with heart failure²². Consuming betel nut is a significant risk factor for the development of Coronary Artery Disease (CAD) almost 6 times and those who have consumed betel nut for more than 10 years have an 8 times risk together with the risk of hypertension and diabetes²³.

Most respondents do not believe that betel nut causes damage to pregnancy outcome. Research by Kaius et al said that betel quid causes damage to pregnancy outcome because betel nut causes anemia so of its effect on hemoglobin which in the long run will cause the birth of LBW (low Birth Weigth) babies²⁴. The community agrees that betel nut causes stomach

problems, this is experienced by some respondents who stop consuming betel nut because their stomach hurts every time they consume betel nut. Apparently health reasons become a weapon to be able to stop them from consuming betel nut. There is a relationship between consuming betel nut and pregnancy outcome, namely low birth weight babies can occur, reducing the baby's body length²⁵. As many as 28 cases were reviewed, there were only 8 cases that found a relationship between betel quid chewing and LBW and PTB (Pre-term Birth)²⁶. Betel nut causes kidney problems, there is a relationship between consuming betel nut and Kidney Stone Disease (KSD)²⁷. Other studies reveal that large amounts of arecoline will be trapped in the oral cavity, or circulated between blood and saliva may have resulted in very high levels of arecoline even 10 minutes after consuming betel nut, cytotoxic and genotoxic effects occur in oral tissues²⁸.

Biologically a very important chemical content in betel nut is arecolin, and there are acute and chronic effects of consuming betel nut on brain functional connectivity, so betel consumption is associated with acute effects and long-term addictive effects²⁹.

In this study, culture influenced their perception of oral health and about the diseases caused by betel nut. Perceptions of dental and oral health due to betel nut consumption and perceptions of diseases caused by betel nut do not affect their behavior. In general, betel nut chewers have a worse perception of health risks than other populations. Overall, empirical evidence suggests that health reasons can reduce the likelihood of people becoming betel nut chewers by increasing their knowledge about the harmful effects of consuming betel nut³⁰, this is in line with this study. Health perceptions and habits are key elements that ensure high quality of health, increasing knowledge is very important to change their perception for the better about betel nut in relation to health and dental health³¹. Consuming betel nut is a learned behavior, embedded in culture, and viewed as an important cultural identifier. Socially, it is seen as a positive thing. Chewers stated that they were not aware of the health problem; However, former chewers stated health reasons for stopping.³² This is in accordance with this study that respondents with health reasons wanted to consume betel nut in poor communities in Kupang Regency

This study shows that the perception of the consequences of consuming betel nut has no influence on the behavior of consuming betel nut. This is because both people with high income and low income have the wrong perception about betel nut and this perception is passed on to the next generation. The culture that influences their perception of consuming betel nut on health and dental health leads to behaviors that are not beneficial to health. Culture influences individual perceptions, beliefs, and behavior, but culture is simply an explanation of how people act and think.³³.

Meanwhile, the Kupang district government does not provide complete and affordable facilities for both health and dental health, thus worsening the condition of the poor and adding to the burden on their lives. With an average per capita expenditure of 6,624 rupiah (for people in Timor) or around US\$ 0.76 (US\$ 13,750) (Titu Eki, 2021), the decline in poverty in Timor is getting worse. Alain de Janvry (2000) in Eki, 2021 stated that poverty reduces poverty (Poverty begets poverty), and D.A Ahlburg (1996) in Titu Eki 2021 "that once poor, always poor" (Once poor, always poor). Quoting what was written in the Concern World wide media (4/2/2019) in Titu Eki, 2021 with the topic The Top 9 causes of Global Poverty which said that: We believe that zero extreme poverty is possible, and so we're working to tackle the root causes of poverty (we can end extreme poverty if we remove the root causes of poverty, which include 1. Lack of clean water and nutritious food, 2. Limited productive employment, 3. Conflicts or disputes, 4. Economic inequality, 5. Poor education, 6. Climate change, 7. Poor infrastructure, 8. Limited capacity of government services and 9. Difficult sources of Government assistance Poverty is detrimental to people's health therefore it is not easy to eliminate public health problems before we address inequality³⁴

In this study, it is further suggested to intervene in the behavior of consuming betel nut in Kupang Regency through socialization and collaboration with village and sub-district officials as well as NGOs in order to help reduce the prevalence of chewing betel nut.

IV. NOVELTY

In this study is the existence of conflicting perceptions in the low income community with research studies that have been carried out by previous researchers about the effect of betel nut on health and dental health, among others, betel nut has no effect on health, dental health and pregnancy outcome, this happens because the culture of consuming betel nut is maintained so that there is a sense of reluctance from local scientists to cultural interventions that are detrimental to health. The frequency of consuming betel nut is on low income, at most they consume 5 or more betel nut a day, they get it from friends and neighbors, from their own garden and sometimes they just buy it.

V. CONCLUSION

This study found that culture influences people's perceptions of the consequences of consuming betel nut on health and dental health that affects behavior, this is relevant for further investigations, such as combining the prevention of consuming betel nut and also government programs of cessation on this behavior. Intervention of betel nut consumption behavior helps reduce the prevalence of betel nut chewing in the district. Kupang. Most of the betel nut consumers are poor families, whose economy should be focused on food, clothing and education and not on buying betel

nut which will have an impact on various diseases including low birth weight babies and stunting toddlers. Perception of health-related risks plays an important role in motivating Changes in health behavior in poor communities in Timor , Kupang Regency

Declaration of Interest

The authors declare that there is no conflict of interest in this study

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