

THE EFFECT OF BETEL CHEWING/MENGINANG HABITS ON DENTAL AND ORAL HEALTH : LITERATURE REVIEW

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ABSTRAK

Menjaga kesehatan gigi dan mulut adalah suatu keharusan bagi setiap orang, karena gigi dan mulut merupakan salah satu titik masuk nutrisi penting ke dalam tubuh. Kesehatan mulut yang baik akan meningkatkan produktivitas dan meningkatkan kualitas hidup. Mengunyah sirih, atau lebih dikenal sebagai menginang, adalah praktik budaya yang telah diwariskan dari generasi ke generasi. Mengunyah sirih adalah proses mencampur beberapa bahan, seperti pinang, daun/buah sirih, kapur, dan gambir, yang kemudian dikunyah bersama. Mengunyah sirih/menginang adalah tradisi budaya yang sering dipraktikkan di Indonesia, seperti pada upacara pernikahan dan pertunangan. Mengunyah sirih/menginang memiliki efek positif dan negatif. Artikel tinjauan pustaka ini bertujuan untuk menyajikan informasi terkait efek mengunyah sirih/menginang terhadap kesehatan gigi dan mulut. Penelitian ini merupakan studi pustaka atau tinjauan artikel yang dilakukan menggunakan situs web Garuda dan basis data Google Scholar dengan publikasi dari tahun 2020 hingga 2026 dengan kata kunci “Menyirih”, “Menginang”, dan “pinang”. Tinjauan literatur menemukan bahwa mengunyah sirih memiliki efek positif dan negatif. Efek positifnya adalah mengunyah sirih memperkuat struktur gigi dan membantu menjaga kesehatan gigi dan mulut. Sementara itu, efek negatifnya adalah peradangan rongga mulut, periodontitis, karies gigi, lesi mulut, dan kanker mulut. Kebiasaan mengunyah sirih berdampak pada kesehatan gigi dan mulut, dan hasil yang diperoleh menunjukkan banyak efek negatif pada kesehatan.

Kata kunci : gigi, mulut, pinang, sirih

ABSTRACT

Maintaining dental and oral health is a must for everyone, because the teeth and mouth are one of the entry points for essential nutrients into the body. Good oral health will increase productivity and improve quality of life. Betel chewing, or more commonly known as menginang, is a cultural practice that has been passed down from generation to generation. Betel chewing is the process of mixing several ingredients, such as areca nut, betel leaf/fruit, lime, and gambier, which are then chewed together. Betel chewing/menginang is a cultural tradition that is often practiced in Indonesia, such as at weddings and engagement ceremonies. Betel chewing/menginang has both positive and negative effects. This literature review article aims to present information related to the effects of betel chewing/menginang on dental and oral health. This study is a literature study or article review conducted using the Garuda website and Google Scholar database with publications from 2020 to 2026 with the keywords “Menyirih” ‘Menginang’ and “pinang”. The literature review found that betel chewing/menginang has positive and negative effects. The positive effects are that betel chewing/menginang strengthens tooth structure and helps maintain dental and oral health. Meanwhile, the negative effects are inflammation of the oral cavity, periodontitis, dental caries, oral lesions, and oral cancer. The habit of betel chewing/betel nut chewing has an impact on dental and oral health, and the results obtained have many negative effects on health.

Keywords : betel, areca nut, teeth, mouth

INTRODUCTION

Healthy teeth and mouth are a must for everyone. This is because the teeth and mouth are part of the body where food and drink enter, which can determine how much nutrition and nutrients enter the body (Wijayanti, 2023). There are many important organs in the mouth,

including the tongue, oropharynx, parotid glands, tonsils, uvula, sublingual glands, and submaxillary glands (Wakim et al., 2024). Good dental and oral health will have an impact on increasing human resource productivity and quality of life (Meidina et al., 2023). According to the World Health Organization (WHO) 2022, around 3.5 billion people worldwide suffer from dental and oral diseases. In Indonesia, based on data from the 2018 Basic Health Research (Riskesmas), approximately 88.80% of people experience dental caries, although there was a decline in 2023, it was not significant. The 2023 Riskesmas data also found that around 56.9% of Indonesians still experience dental and oral health problems.

Betel chewing, or more commonly known as *menginang*, is a cultural heritage that has been passed down from generation to generation by our parents. This habit of betel chewing is still associated with the belief that it can make teeth healthier and stronger, as well as the addictive effect that makes people unable to give up the habit (Dewi et al., 2023). According to (Aditya et al., 2024), betel chewing is the process of mixing several ingredients, such as areca nuts, lime, betel leaves, and gambier, which are combined and chewed together. The betel mixture usually varies and is often added according to taste. The mixture is then wrapped in betel leaves. In some places in Eastern Indonesia, betel nuts are used instead of leaves. Betel is placed on the buccal mucosa and chewed slowly; it is then held on the buccal mucosa for a long time while chewing and sucking on the betel intermittently, with some of the mixture being swallowed during the chewing process and the rest being discarded afterwards (Jasmine et al., 2024). In Indonesia, chewing betel nut is believed to strengthen and maintain dental and oral health. In some regions of Indonesia, betel chewing/*menginang* is still part of daily life and a habit that is often practiced every day. Several studies have also found that the frequency of betel chewing in some areas is still quite high, such as the study conducted by (Salim & Widjaja, 2020), which found that many elderly people still chew betel/*menginang* more than 3 times a day and more than 13 times a week. Chewing betel nut/masticating areca nut has both positive and negative effects on dental and oral health.

The areca nut is a palm tree that is widely found in Indonesia. The fruit is often used as an ingredient in betel quid or can also be eaten separately. The fruit or seeds of the areca nut have addictive effects similar to those of cigarettes and stimulants like coffee. Additionally, the areca nut has carcinogenic effects that can increase the risk of oral cancer for users, with this risk being even greater when used in combination with tobacco. Betel nut chewing is the most important factor in the formation of pre-cancerous lesions, or medically known as oral submucosal fibrosis. Reactive Oxygen Species (ROS) are also involved in the early stages of tumor formation by increasing genotoxicity and mutations in genes (Setianingtyas et al., 2021).

A betel chewer who does not clean their teeth after chewing betel for a relatively long period of time will cause their teeth to turn black and look dirty, which causes bacteria to grow and thrive (Emailijati et al., 2022). Many studies mention that there is a link between betel chewing and dental and oral health problems. A study by (Jasmine et al., 2024) states that the habit of chewing betel nut, often combined with smoking and drinking alcohol, can have additional detrimental effects on periodontal health. (Setianingtyas et al., 2021) also mentions that chewing betel nut with tobacco is one of the factors contributing to oral cancer. This Literature Review article aims to present information related to the effects of betel nut chewing/*menginang* on oral health.

METHOD

This research is a literature study or article review conducted using the Garuda Website and Google Scholar with publications from 2020-2026 with the keywords “Menyirih” ‘*Menginang*’ and “pinang”, which yielded 9 national scientific articles.

RESULTS

Table 1. Selected Articles

No	Author	Year	Research Method	Title	Results
1.	Asmawati, Nur Awalia Putri Zainal, Muhammad Asman Setiawan, Hikma Sofyan	2024	Analytical Survey Research Using Cross-Sectional Methods	The Custom of Chewing Betel Nut and Its Effect on Gingival Status Among the Muna People of Southeast Sulawesi	This study examined the gingival status of elderly women in Walambenowite Village and found that 14% had moderate inflammation and 86% had severe inflammation. The study also concluded that there is a significant relationship between betel chewing and gingival status.
2.	Maryando Bendy Wakim, Sylvianovelist a R. Losoiyo, Ummul Hairat	2024	Quantitative research with an analytical survey design and cross-sectional approach	The Effect of Betel Chewing on Oral Complaints Among Elderly People in Telalora Village, Masela Island District, Southwest Maluku Regency	This study found that there is a significant relationship between betel chewing and betel quid chewing and oral cavity complaints in the elderly, and of the 30 respondents who chewed betel nut/betel quid and had oral cavity complaints, the percentage was higher (93.3%).
3.	Desak Ayu Dhyana Nitha Dewil, I Made Subrata, Ni Wayan Arya Utami	2023	Quantitative analytical research with a cross-sectional approach	The relationship between the habit of chewing betel nut and the incidence of gingivitis among elderly people in the working area of Kintamani VI Community Health Center	The results of the study found that cases of gingivitis were commonly found in men aged 75-90 years who had a habit of chewing betel nut. The study also concluded that chewing betel nut increases the risk of gingivitis by up to 3.269 times.
4.	Kartika Emailijati, Nurhamidah, Ni Ketut Nuratni	2022	Quantitative analytical research with a case control design	The Effect of Betel Nut Chewing on Plaque and Calculus in Children Aged 10- 12 Years in Batu Karang Village, Payung District, Karo Regency	This study found that people who chew betel nut are more prone to plaque and calculus formation than those who do not chew betel nut.
5.	Supardi Salim, Umi Susana Widjaja	2020	Analytical observational research using a cross-sectional study design	The Relationship Between Betel Chewing and the Prevalence of Oral Mucosal Lesions in the Community of Ternate City, North Maluku Province	This study found that there is a relationship between the frequency of betel chewing and the prevalence of oral mucosal lesions, with betel chewers who chew more than 13

					times per week and more than 3 times per day being at greater risk of developing oral mucosal lesions.
6.	Annisah Biancika Jasmine, Rostika Flora, Rahmi Fitri J	2024	Literature Review/Narrative Review	The Habit of Chewing Betel Nut and Its Relationship to Periodontal Conditions: A Narrative Review	Excessive and prolonged use of betel nut can have significant adverse effects on human health, including an increased risk of periodontitis.
7.	Ronal Surya Aditya, Alifatunnisa, Chysaura Malva Elvarelta, Felicia Dewati Elit Adhitama, Nasya Zilza Khusna, Oskar Betay, Sari Dewi Andayani	2024	Literature Review/Narrative Review	The Effect of the Tradition of Chewing Betel Nut on Dental Health	The study found that one of the main benefits of chewing betel nut is improved dental and oral health. However, there are potential dangers such as damage to teeth and periodontal tissue, especially when done excessively or with certain chemicals.
8.	Tasyafiki Azraliani,Dien Anshari	2023	Review/Narrative Review	The Effects of Betel Chewing on Dental and Oral Health: Literature Review	This study concludes that the habit of chewing betel nut has an impact on various dental and oral problems. Factors that have an impact include the frequency of chewing betel nut and knowledge of the dangers of this habit.
9.	Marina Silalahi	2020	Review/Narrative Review	Benefits and Toxicity of Areca Nut (Areca Catechu) in Human Health	This study concludes that betel nut consumption has both positive and negative effects. The positive effects include inhibiting microbial growth, anti-inflammatory properties, anti-schizophrenia properties, and strengthening memory. Meanwhile, the negative effects include neonatal syndrome, hyperglycemia, and the risk of oral cancer.

DISCUSSION

Chewing betel nut, or what is known in Eastern Indonesia as eating pinang, is a custom that has been passed down from generation to generation. Like smoking, betel nut

chewing/menginang can also be addictive, making it difficult for users to quit. In some areas outside of Eastern Indonesia, betel nut chewing/menginang has become a tradition that takes place at major events such as weddings and marriage proposals. Many studies have mentioned the influence of betel nut chewing on dental and oral health. A study by Asmawati et al. (2024) found that there is a relationship between the habit of betel nut chewing and the gingival status of elderly women in Muna Regency. The dental and oral health results obtained were mostly in the category of severe inflammation, with a total of 31 people (86.1%). Research by (Wakim et al., 2024) on betel chewing habits and oral cavity complaints among elderly people in Telalora Village found that of 30 respondents who chewed betel, 28 people (93.3%) had oral cavity complaints.

Research by (Emailijati et al., 2022) found that people with a betel nut chewing habit are more prone to plaque and calculus formation than those who do not chew betel nut, and in betel nut chewers, plaque and calculus formation is categorized as poor. This study also concluded that betel nut chewing has a negative impact on dental and oral health, in line with research by (Dewi et al., 2023) which found that respondents who chew betel nut are 3.269 times more likely to develop gingivitis than respondents who do not chew betel nut, and that there is a relationship between the habit of chewing betel nut and the occurrence of gingivitis. This study also found that many elderly people still have the habit of chewing betel nut (43.3%). This habit is still associated with the belief that chewing betel nut can make teeth healthier and stronger, as well as the addictive effects that make people unable to give up the habit.

Research by (Salim & Widjaja, 2020) found that people who chew betel more than 3 times a day and more than 13 times a week are at greater risk of oral mucosal lesions and that there is a correlation between betel chewer's mucous and the frequency of betel chewing. This study also concluded that betel chewer's mucous occurs due to long-term betel chewing habits, as the ingredients in betel, such as lime, areca nut, betel leaf, and tobacco, irritate the mouth, and fluids that frequently come into contact with the oral mucosa can cause desquamation (peeling of the epithelial layer), followed by changes in mucosal color to yellowish or reddish, with lesions typically being localized. A review by (Jasmine et al., 2024) found an association between the habit of chewing betel and periodontal status. It was also concluded that the duration and frequency of chewing have a significant association with periodontal inflammatory parameters, which are significantly higher in betel nut chewers than in non-chewers, and are also associated with poorer periodontal status, where prolonged and excessive use induces higher incidence and severity of periodontal disease.

A review by (Aditya et al., 2024) found that betel chewing has both positive and negative effects. The positive effects of betel chewing include strengthening tooth structure and helping to maintain dental and oral health, all of which are derived from compounds contained in betel nuts. Meanwhile, the negative side includes the risk of dental damage such as cavities, periodontal disease, and oral cancer. This study is also in line with a review by (Azraliani & Anshari, 2023), which found that betel chewing has a negative impact on dental and oral health. A review by (Silalahi, 2020) also found that consuming betel nuts (the basic ingredient for chewing betel) has both positive and negative effects. The positive effects are inhibiting microbial growth, anti-inflammation, anti-schizophrenia, and strengthening memory. In addition, betel nuts also have negative effects such as neonatal syndrome, hyperglycemia, and oral cancer. Research – The above studies confirm that chewing betel nut, although it has positive effects on health, does not outweigh the negative/adverse effects. Many studies link betel chewing/menginang with various dental and oral health problems, including the risk of oral cancer. This is further exacerbated by smoking, alcohol consumption, and the addition of tobacco when chewing betel/menginang.

CONCLUSION

This study concludes that the habit of chewing betel nut/masticating betel nut has an impact on dental and oral health. Based on the results of the above article review, it was found that chewing betel nut/masticating betel nut has more negative effects on dental and oral health. This is also reinforced by the large number of cases of dental and oral problems caused by chewing betel nut/masticating betel nut, which continue to increase every year. Further research on this topic is also needed, along with the participation of all relevant parties in educating the public about the habit of brushing teeth after betel nut chewing/menginang and the adverse effects if this behavior continues.

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