COMPARISON OF EFFECTIVENESS MEASURES WITH HONEY HARVESTS AND NIPIS ORANGE SUGAR ON GINGIVITIS OF THE STUDENT LEVEL I NURSING DENTAL DEPARTMENT HEALTH POLYTECHNIC TASIKMALAYA 2015

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Abstract

Background: improper use of synthetic rinses can cause adverse side effects so that researchers are aware of the need for a good natural mouthwash for dental and oral health one of them using honey and lime. Some research proves that the content of honey and lime can be used as a natural ingredient to maintain healthy teeth and mouth. Honey has antibacterial and antiseptic properties that can kill bacteria and accelerate wound healing while vitamin C in lime can also help in healing and repair of gingival tissues and essential oils have activity inhibitory against bacteria **Purpose**: This study aims to determine the effectiveness of the solution of honey with a solution Lime as a mouthwash against gingivitis. **Method**: This research uses the quasi-experimental method with two groups pre and post test design. Research subjects were 32 people divided into 2 groups, namely the gargling group using a solution of honey and a group that rinsed lemon solution. The two groups were examined gingival index before and after treatment. **Results**: Based on the results of paired T-tests in both groups resulted that both were effective in reducing the index gingivae. The unpaired T-test results showed no significant difference between the gargling group of the honey solution and the gargling group of a lemon solution. **Conclusion**: Based on the research done it can be concluded that the solution of honey and lemon solution are equally effective in preventing and treating gingivitis disease, but there is no significant difference between the two.
Keywords: honey solution, lemon solution, gingival index

INTRODUCTION

The most common diseases suffered by the population are dental and oral diseases and the highest cases are periodontal disorders or dental support tissues (Astoeti, 2007, *Cit.*, Purwantiningsih, 2009). One of the periodontal disorders is gingivitis.

Gingivitis is a process of inflammation within the periodontium, which remains limited to the gingiva and is considered reversible (Houwink, 1993). Understanding gingivitis according to (Ghofur, 2012) is the most common inflammatory reaction and gingiva are caused by bacterial colonization on the tooth surface and invasion involving microorganisms into the gingival sulcus.

In general, the main factor that causes the occurrence of gingivitis (gingivitis) is a buildup of dental plaque that contains millions of bacteria. Bacteria and its products are then spread to the gum pocket area so gradually result in inflammation (Mumpuni and Pratiwi, 2013).

The incidence of gingivitis peaks during puberty. Puberty comes from the Latin word meaning "age of maturity". It refers to the physical change rather than the behavioral changes that occur when the individual is sexually maturing and capable of giving offspring (Elizabeth, 1999). WHO (World Health Organization) set the age limit of 12-20 years as the age limit of adolescence, at this time is period of rising of reason (ratio) reason and self-consciousness (self-consciousness), at this time also there is energy and physical strength Which is extraordinary as well as a growing sense of curiosity and desire to try.

According to Sutcliffe (1972, Cit., Manson and Eley, 1993), gingivitis changes occur even when plaque control remains unchanged. On the basis of this, small amounts of plaque present in other age groups have little gingival inflammation. When puberty is over, inflammation tends to subside on its own but can not go away completely unless controlled plaque.

The severity of the inflammation of the gingiva can be measured by the Gingival Index (GI). Gingival Index (GI) is a tool to help diagnose patients with gingivitis and monitor response to intervention. When the gingival condition was observed according to the highest score and the score of treatment requirement by age group, it was seen that the greater the gingival score and the greater the value of care requirement score (Manson and Eley, 1989).

Maintaining dental hygiene during puberty with gingivitis not only by brushing your teeth, with the use of mouthwash after brushing your teeth will improve the tooth cleaning routine. Gargle effectively kills germs and bacteria in the mouth and teeth, because of its antiseptic substances (Darmawan, 2007).

The use of mouth rinse is one way that is quite successful in maintaining oral hygiene (Endarti, 2007). The commonly used mouthwash is an antiseptic mouthwash, but the use of antiseptics in adult mouthwash is suspected to be carcinogenic to its users. This is supported by the results of research McCullough and Farah (2008) which states that the use of mouthwash with antiseptic content in the form of alcohol can trigger the occurrence of oral cancer. This modern has much use of traditional medicine as a safer alternative than chemicals.

Honey is one of the beekeeping products that have been known to the world community. Honey has long been recognized in the world of medicine (Sarwono, 2001). In modern times as now bee products have started ogled as ingredients of medicine, honey has properties that are able to fight disease and antibacterial. The entire continent of the world now makes honey a wound healing agent because of its ability to inhibit wound infections. In addition to the use of honey to be used as a natural mouthwash ingredients, lime fruit also turned out to be used as a natural mouthwash ingredients.

Lime contains vitamin C as much as 27 mg / 100 g oranges, Ca as much as 400 mg / 100 g oranges, and pospat as much as 22 mg. The benefits of the components of lime are very diverse, including vitamin C can help in healing and tissue repair while Essential Oils have inhibitory activity against bacteria (Mustafa, 2015). Due to the high levels of vitamin C in citrus fruits, the lime fruit can cure gingivitis (gum bleeding) and influenza disease (Rahman, 2011).

Based on that the researcher is interested to compare the effectiveness of honey solution and lemon solution to gingivitis in the first grade students of Dental Nursing Polytechnic of Tasikmalaya Health.

METHOD

The type of research used is the quasi experimental study with two groups of pre and post-test design (Notoatmodjo, 2002). The research was conducted by the first-grade students of Dental Nursing Department of Class of 2015. The population in this research is all of the first level students of Dentistry of Dental Polytechnic of Tasikmalaya Health in 2015, amounting to 40 people. The sample of this research is taken by purposive sampling technique. The inclusion criteria in this study were gingivitis samples (mild, moderate or severe criteria), not using orthodontic instruments, removable or fixed protesha devices and willing to be respondents.

RESULT

Table 1. Frequency distribution of sample of research before and after mouth Honey solution

No	*GI*	Criteria			
		Pre		Post	
		Total	Persentase	Total	Persentase
1.	Health	0	0	4	25%
2.	Mild	3	18,75%	12	75%
3.	Moderate	13	81,25	0	0
4.	Severe	0	0	0	0
		16	100	16	100

The above table describes before and after treatment of gargle honey solution, before the treatment obtained Gingival Index data with healthy criteria that are 0 people (0%), mild criteria that is as much as 3 people (18.75%), moderate criteria are 13 people (81, 25%) and no weight criterion was found (0%). The results of Gingival Index examination after rinsing with a honey solution obtained data with healthy criteria of 4 people (25%), mild criteria as much as 12 people (75%) while for moderate and severe criteria did not exist (0%).

Table 2. Distribution of sample frequency of research before and after rinsing with lime solution

No	*GI*	Criteria			
		Pre		Post	
		Total	Persentase	Total	Persentase
1.	Health	0	0	6	37,5%
2.	Mild	3	18,75	10	62,5%
3.	Moderate	13	81,25	0	0
4.	Severe	0	0	0	0
		16	100	16	100

The above table illustrates before and after treatment of gargle of lemon juice solution, before treatment is given Gingival Index data with healthy criteria are 0 people (0%), mild criteria are as many as 3 people (18.75%), moderate criteria is 13 people (81.25%) and no weight criterion (0%) was found. The result of examination Gingival Index after gargling with a honey solution obtained by data with a healthy criterion that is 6 people (37,5%), light criteria counted 10 people (62,5%) while for medium criterion and weight not exist (0%).

Table 3. Gingival Index frequency distribution before and after rinsing with honey and lemon solution

Treatment	*Gingival Index*		Difference
	Pre	Post	
Gargle with a solution of honey	1,345 (*Gingivitis* Moderate)	0,413 (*Gingivitis* Mild)	0,932
Gargle with lemon juice	1,283 (*Gingivitis* Moderate)	0,312 (*Gingivitis* Mild)	0,971

Based on the results in Table 3, the difference between the average of Gingival Index before and after the gargle treatment with a honey solution was 0.932, while the difference between the average Gingival Index before and after treatment with a honey solution was 0.971. The results showed a decrease between the two treatments, but gargling with lime solution showed better results in treating gingivitis than rinsing with a solution of honey with a difference of 0.039 in both meanings.

DISCUSSION

Based on the above results, it can be described that the severity of gingivitis mostly amounted to 13 people (50%) from group A with moderate criteria and 13 people (75%) from group B with moderate criteria, it is possible that the students did not maintain dental hygiene And mouth causing poor oral hygiene, leading to plaque buildup of unburned food scraps and when the food remains attached to the teeth (calculus) making it more susceptible to gingivitis. The above statement is in accordance with the opinion of Martawiransyah (2008) which states that the cause of gingivitis is the buildup of dental plaque containing millions of bacteria, bacteria and its products are then spread to the gum pocket area so that eventually lead to inflammation (inflammation). According Sahrini (2011) also argues that the main cause of gingival disorders is the buildup of plaque. Gingivitis is also caused by poor oral hygiene, causing pain, sensitive to hot or cold food and bleeding at the gingival margin.

The average Gingival Index results before and after gargling with honey solution showed a significant decrease in Gingival Index from 1.345 to 0.413 with a difference of 0.932. Based on the results of these studies gargling with honey is recommended when experiencing gingivitis, because honey is a traditional medicine that also affects the healing gingivitis. This is in line with research conducted by Shofiah (2012), which states that gargling with honey can inhibit dental plaque growth. Dental plaque is one of the causes of periodontal abnormalities including gingivitis.

The average Gingival Index before and after gargling with lemon solution showed a decrease in Gingival Index from 1.283 to 0.312 with 0.971 difference. Gargling with a lime solution is also recommended when experiencing gingivitis, because the lemon is a traditional medicine that also affects the healing gingivitis. This is in accordance with the opinion Rahman (2011), in his research stating that lime in addition to drinks can also be used as a drug. Due to the high levels of vitamin C in citrus fruit, the lime fruit can cure gingivitis (gum bleeding) and influenza disease.

Normality test results showed data on the gargling group using normally distributed honey solution. Data analysis continued with paired t-test showed p = 0,000 (p <0,05) which showed significant difference before and after rinse honey solution.

Analysis of GI data of the gargling group of a lemon solution showed that the normality test of the distribution of the data of the rabbit group was normal distributed, so that the paired t-test was obtained p = 0,000 (p <0,05) which showed significant difference before and after Berkumurlarutan orange juice.

The analysis was continued with an unpaired T Test based on gingival index measurements after rinsing each group to find out whether there was a significant difference between the gargling groups of a honey solution and pineapple solution. In each group the distribution of normally distributed data is distributed. In unpaired T-test, p = 0,439 (p> 0,05) showed no significant difference after rinsing using honey solution and lemon solution.

Both the solution of honey and lemon solution are equally effective in the treatment of gingivitis disease is expected with the results of this study can make a solution of honey and lemon solution as an option in treating gingivitis and can be used as the daily gargle in preventing the occurrence of gingivitis.

CONCLUSION

Gingival Index before and after gargling with honey solution showed a decrease from 1.345 to 0.413 decrease of 1.932. Gingival Index before and after rinsing with a lime solution from showing a decrease of 1,283 to 0,312 its decrease equal to 0,971. There was no significant difference between the use of a honey solution and lemon solution to gingivitis. The use of both solutions is effective in treating gingivitis.

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