

THE EFFECT OF BLACK STICKY RICE TAPE CONSUMPTION ON ALTERATION OF SALIVA PH ON TSANAWIYYAH STUDENT OF ISLAMIC BOARDING SCHOOL NO.3 PAMEUNGPEUK SUB-DISTRICT BANDUNG

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ABSTRACT

Saliva in the oral cavity serves not only to help in mastication but also has a protective function, which is maintaining oral hygiene through cleaning mechanisms and coating any tissue in the oral cavity. Many people now consume fermented foods for dessert dishes such a black sticky rice tape. People know that black sticky rice tape has health benefits, such as for body metabolism and antioxidants. This research aims to determine the effect of black sticky rice tape consumption on saliva pH on students of Islamic Boarding School No.3 Pameungpeuk, Bandung. The techniques of the research are analytic with quasi-experiment design and random sampling technique with 45 respondents. The sample is to eat black sticky rice tape as much as 1 tablespoon then do saliva pH examination at 10 minutes after. The saliva pH is measured by digital pH meter analyzed by using T-test dependent. The results of this research indicate that the effect of black sticky rice tape on saliva pH at the time of examination 10 minutes with <0,05 and after testing with the normalization test found p-value >0,05. It can be concluded that is a significant effect of the black sticky rice tape on saliva pH on students of Islamic Boarding School No.3 Pameungpeuk, Bandung.

Key words: Oral health, black sticky rice tape, saliva pH

INTRODUCTION

Saliva plays an important role in maintaining the balance and preservation of teeth (Koonig and Hoogerdorn, 1982, cit, Melany 2006) and in reality mouth conditions are strongly influenced by pH resulting from the glycolysis process of the food which has direct contact with the teeth. Several factors cause changes in salivary pH, including the oral cavity and salivary buffer. Changing the degree of acidity of the saliva on the tooth surface to reach a critical pH (5.2 - 5.5) will facilitate the growth of acidogenic bacteria and exceed the limits of the dental environment (salivary buffer capacity) to maintain tissue integrity so that demineralization will occur (Soendoro, 1998). and the mouth will not escape food and drink. Food and drinks can affect oral health. A healthy diet certainly needs to be applied to maintain and maintain body health including dental and oral health (Rahmadhan, 2010). The tape is an alcoholic fermentation product and is a mixed fermentation. The tape is a traditional fermented food obtained by steaming raw materials, inoculated with yeast tape, then stored or brooded for a certain period at room temperature (Putri; 2007). Besides, sticky tape is often found in various programs carried out. the community, starting from the celebration, thanksgiving, marriage, Eid and social gathering, black sticky rice tape is often served as an event sweetener. In West Java, black sticky rice tape is one of the typical souvenirs of Kuningan Regency, whose production can reach 1 ton per day and is often distributed to agents and become souvenirs for Jakarta or Bandung. (Tempo, 2016). Fauziyah, Rr Nur (2015) through his research said black sticky tape has many benefits contained, in addition to fulfilling body nutrition for a diet program, black sticky rice tape has benefits for the body's metabolism and is rich in fibre and antioxidants. Antioxidants are substances that can delay, slow down and prevent the oxidation process. The benefits of oxidants

for health care to prevent cancer and tumours, as well as in dental and oral health. Black Sticky Tape is also rich in fibre. Foods that contain lots of fibre can prevent dental caries because fibrous foods need to be chewed longer so that chewing movements can stimulate the release of more saliva. Food that is in the oral cavity will affect the pH of the saliva continuously (Cahyati, Widya Hary; 2013).

METHOD

This study used an analytical method, with a quasi-experiment design. Where this study was conducted to determine the effect of consuming black sticky rice tape on the pH of saliva. The place for conducting research is Islamic Boarding School No. 3 Pameungpeuk Bandung held in February-April 2018. The population taken is Islamic boarding school Islamic Unity No.3 Pameungpeuk Bandung with a total of 500 students.

Information:

N : Number of populations
n : Population
d : Desired level of trust / accuracy
p : The degree of accuracy used
 α : Error rate
 $Z^{21-\alpha/2}$: Normal standard value $\alpha = 0,05$
(1.96)

The number of samples is 45 Islamic boarding school students of Persatuan Islam No. 3 Pameungpeuk Bandung. This sample has met several criteria, including Santri Inclusion Criteria recorded in the 2017-2018 academic year. Exclusion criteria for students who are fasting, santri who are in ill condition, santri who are taking drugs and santri who are doing physical activity or exercising this sample are taken by pursuing random sampling that is sampling based on research needs, for more details can be seen in table 1.

Table 1. Calculation of Sample Amounts Based on Proportional Cluster Sampling for Class Part

Section	Amount of Santri	Amount of Samples
Class VII	200	18
Class VIII	140	13
Class IX	160	
Total	500	Respondents = 45

Samples were selected by simple random sampling technique, ie each member of the population had the same opportunity to be selected as a sample. This random sampling technique draws members of the population (lottery method) (Notoatmodjo, 2010).

Research tools and materials:

Dental and oral health kit consisting of Phantom, flipchart training material book, toothbrush, toothpaste, mirror, disclosing solution, gargle glass; Slabber/apron; Gloves/gloves; Mask; Observation measurement/checklist form

How it works:

The technique of data collection in the preparation stage is licensing from the institution and preparation of tools and materials for sampling. The Implementation Phase the number of respondents is 45 people. Before treatment, respondents may not eat or drink for 60 minutes. After 60 minutes the respondent checked his saliva pH before getting treatment by spitting on the cup provided. Then by spitting it into the salivary collection cup, and to measure the pH of the saliva by pH. The digital indicator is dipped into a cup containing saliva until the number indicated on the pH indicator stops. Next, respondents were given 1 tablespoon of black sticky rice tape per person to eat. After that, the respondents spit back on the cup provided and then measured the pH of the saliva as before. Measurements are carried out for 10 minutes.

A research instrument is a tool used by researchers to collect the required data. In this study, researchers used research instruments such as Tools and materials, pH meters, saliva mask collection glove and gloves, stationery, examination sheets and black sticky tape. Data processing is obtained from direct examination using pH digital indicators and salivary collection plates. Each acquisition of value generated from measurements directly to the respondent will be accumulated and tabulated in the frequency distribution table. Data obtained from research results are quantitative data, namely data in the form of numbers. Data obtained from measurements directly will be processed and analyzed using the Dependent T-test.

RESULTS AND DISCUSSION

The results of the study conducted by researchers on 45 Santri Tsanawiyah Islamic Unity Islamic Boarding School No.3 Pameungpeuk Bandung about the effect of consuming black sticky rice tape on the pH of saliva are as follows:



Figure 1 Research Result

Before

After

Figure 1 shows an increase in salivary pH after 10 minutes.

Table 1. Statistical Test Results with Dependent T-

test

Intervention	T	Df	A
Before-After	-4,842	44	0,000

The table above shows that the value of $\alpha < 0.05$ is obtained so that H_0 is rejected, meaning that there is an effect of consuming black sticky tape on the pH of saliva.

Table 2 Results of Statistical Tests with Data Normality Test

P	Before	After
Asymp. Sig (2-tailed) / α	236	632

The table above also found that the value before consuming is 0.236 and the value after consuming is 0.632 where both of them exceed the value of 0.04. Where if $\alpha > 0.05$ then the distribution is normal.

DISCUSSION

The results of the research conducted showed that the average pH of saliva before consuming black sticky rice tape was 6.46 and the average pH of saliva after consuming black sticky rice tape at 10 minutes was 6.94. Where the ratio is 0.48. Although not too significant, there are still influences seen from the results of statistical tests.

To see the effect of consuming black sticky rice tape on salivary pH using the Dependent T-test statistical test. Based on the results of these statistical tests, the salivary pH value before and after consuming black sticky tape is that at 0 and 10 minutes the value of $\alpha < 0.05$, H_0 is rejected, meaning that there is an effect of consuming black sticky tape on the pH of saliva.

Likewise, from the results of the normality statistical test data obtained the pH value of saliva before consumption of black sticky rice tape is 0.236 and the salivary pH after consuming black sticky rice tape is 0.632.

Wherefrom both the test results exceeded 0.05. Where if the result of $P > 0.05$ means that the data obtained is normally distributed.

CONCLUSION

The effect of consuming black sticky tape on Saliva pH. Can be concluded:

The average pH of saliva before consuming black sticky rice 6.46, the average pH of saliva after consuming black sticky rice tape at 10 minutes is 6.94. from the results of statistical tests and the effect of consuming black sticky tape on the pH of saliva in minute 10. where from the results of the T-Test $\alpha < 0.05$, and the normality data test $P > 0.05$.

COMPETING INTEREST

The authors of this paper have no competing interest to report.

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