ORGANOLEPTIC EVALUATION OF *KEPOK* BANANA HEART (*MUSA PARADISIACA NORMALIS*) NUGGET WITH ADDED CATFISH

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ABSTRACT

Food is defined as something that can be eaten by humans. In terms of consuming food, it is important to pay attention to the diversity of types of food, so that nutrients can be fulfilled. Banana heart has a very high fiber content. The types of banana buds used in this study were *kepok* banana buds. Catfish contains high nutritional value and used as a source of protein. This study aims to determine the organoleptic evaluation of *kepok* banana heart nuggets with addition of catfish including color, aroma, texture, and taste. The research design was a quasi-experimental experiment with three treatments using a comparison of banana heart *kepok* and catfish meat, as followP1 (banana heart 250 g and catfish 100 g), P2 (banana heart 200 g and catfish 50 g), and P3 (banana heart 150 g fish and catfish 25 gr). The results of the color test showed that the highest results were 100% like to very much like P1 and P2, aroma 100% like to very much like P2 and P3, texture 100% like to very much like P2 and taste 100% like very much like is at P2. The results of the different test analysis showed differences in color, aroma, texture, and taste in the three treatments with a p-value = 0.000. In conclusion, treatment 2 is most preferred formulation by panelists, with a ratio of 200 banana heart and 50 g catfish.

Keywords: banana heart *kepok*, catfish, organoleptic

ABSTRAK

Makanan didefinisikan sebagai sesuatu yang dapat dikonsumsi oleh manusia. Dalam hal mengkonsumsi makanan, penting untuk memperhatikan keragaman jenis makanan agar gizi dapat terpenuhi. Jantung pisang memiliki kandungan serat yang sangat tinggi. Jenis pucuk pisang yang digunakan dalam penelitian ini adalah pucuk pisang kepok. Ikan lele mengandung nilai gizi yang tinggi dan digunakan sebagai sumber protein. Penelitian ini bertujuan untuk mengetahui tingkat kesukaan nugget jantung pisang kepok dengan variasi penambahan daging ikan lele terhadap warna, aroma, tekstur, dan rasa. Rancangan penelitian adalah eksperimen semu dengan tiga perlakuan menggunakan perbandingan jantung pisang kepok dan daging lele, P1 (jantung pisang 250 g dan lele 100 g) P2 (jantung pisang 200 g dan lele 50 g), dan dP3 (jantung pisang 150 gram danikan lele 25 gr). Hasil uji warna menunjukkan bahwa hasil tertinggi adalah 100% suka sangat suka P1 dan P2, aroma 100% suka sangat suka P2 dan P3, tekstur 100% suka sangat suka P2 dan rasa 100% sangat suka. seperti di P2. Hasil analisis uji beda menunjukkan adanya perbedaan warna, aroma, tekstur dan rasa pada ketiga perlakuan dengan nilai p = 0,000. Kesimpulan perlakuan 2 paling disukai panelis, dengan perbandingan 200 jantung pisang dan 50 g lele.

Kata kunci: *lele, jantung pisang kepok, tingkat kesukaan*

INTRODUCTION

Snack food according to the Food and Agricultural Organization (FAO) is food and drink prepared and sold by street vendors on the streets and in other public crowded places which are directly eaten and consumed without further processing or preparation. The term snack food is not far from the terms junk food, fast food and street food because these terms are part of the term snack food (Mavidayanti et al, 2016). Unhealthy eating patterns often occur due to ignorance of the impact and lack of knowledge in choosing snack foods. Knowledge affects attitudes in choosing snacks. Good knowledge is expected to affect the consumption of good food so that it can lead to good nutritional status as well. Lack of knowledge about nutrition and mistakes in choosing snacks will affect nutritional status (Sukma et al, 2014).

The negative aspect of snack food is that if consumed in excess, it can cause obesity. In terms

of diet, people, especially school children, prefer ready-to-eat foods which generally contain high calories, rich in fat, high in sodium, and low in fiber. This allows cases of overweight or obesity among school-age children (Sukma et al, 2014). Based on data from the World Health Organization (WHO) in 2018, it is known that within a period of 5 years, the increase in the prevalence of snack consumption continues to increase and causes obesity. In 2018, the prevalence of obesity increased to 21%. From overweight to obesity as much as 10.4%, 9.4% remain obese, and only 2.1% overweight to normal. This is because school children often eat snacks that are high in calories and lacking in other nutrients.

Banana heart has health benefits, such as to improve digestion, useful for diet, improve blood circulation, increase the production of red blood cells. Banana heart also contains various nutrients including protein, carbohydrates, minerals, phosphorus, calcium, vitamin B1, vitamin C and the fiber content contained in banana heart is also very high so that banana heart is often touted as a food that contains complete nutrition. The type of banana heart used in this study is the type of *kepok* banana heart, because this *kepok* banana heart has a different taste from other banana hearts, which is more savory and can be processed with various types of processed foods (Astija, 2020). Banana buds, in certain areas, are produced a lot but are not used as food. This is due to the lack of public knowledge about how to manage the banana heart into a food product that has both nutritional value and economic value for the community. Therefore, it is necessary to have other innovations from banana hearts in a more interesting way, one of which is processed into nuggets.

Nugget is one of the fast food that is very popular in Indonesia and is generally liked by everyone, from children to adults. Judging from this, it is very necessary to try to substitute raw materials for nuggets with the addition of ingredients that are rich in nutrients, low in fat, and do not contain cholesterol and are rich in fiber. But here, banana heart only contains 1.2 g/100 g of fresh banana heart (Kemenkes RI, 2018). For this reason, it is necessary to increase the intake of animal protein for the ingredients for making these nuggets, so that catfish meat is added as a source of animal protein because catfish contains high nutritional value and can be used as a source of protein food.

Catfish contains high nutritional value and can be used as a source of protein. Based on the results of proximate analysis conducted by Irwandi (2016), African catfish meat contains 17.7% protein, 4.8% fat, 0.3% carbohydrate, 76% water content, and 1.2% ash/mineral content. Research by Rustaman (2015) in his research states that 141.5 g of processed catfish filet contains vitality of 217 kcal, 26.7 g protein, 11.5 g fat, 20.7 mcg selenium, 4 mcg vitamin B12, potassium 459 mg, and niacin 3.6 mg. The purpose of this study was to determine the level of preference for (color, aroma, texture, and taste) in *Kepok* banana heart nuggets with variations in the addition of catfish meat.

METHODS

The research design was a quasi-experimental with three treatments using a comparison of banana heart and catfish meat, P1 (banana heart 250 g and catfish 100 g), P2 (banana heart 200 g and catfish 50 g), P3 (banana heart 150 g and catfish 25 g). With three treatments using a ratio of banana heart *kepok* and catfish, namely PI banana heart 250: catfish 100, P2 banana heart 200: catfish 50, P3 banana heart 150: catfish 25 with symbols A1, A2, and A3. This research was conducted on April 25, 2022. The study was conducted at the Laboratory of the Department of Nutrition, Poltekkes, the Ministry of Health, Manado, on 30 level 2 nutrition students as moderately trained panelists. Hedonic test with a rating Likert scale that is very much like value = 5, really like value = 4, like = 3, dislike = 2, very dislike = 1.

The data were analyzed univariately to explain or describe the characteristics of each research variable. Bivariate analysis was carried out to see the difference between the three treatments P1, P2 and P3 which was preceded by the normality test of the data,. the data were not normally distributed thus non-parametric test was used, namely the Kruskal Wallis test.

RESULTS AND DISCUSSION

Tests were carried out on the level of preference for color, aroma, texture, and taste. Test result as follows. Based on the results obtained, the average value given by the panelists to the color of the *kepok* banana heart nugget with variations in the addition of catfish meat, the highest results obtained from 100% liking to very much liking were in P1 and P2.

Table 1. Results of color evaluation of nugget

Levels of Liking	Color		
	P1	P2	P3
	%	%	%
Very Dislike	0.0	0.0	0.0
Dislike	0.0	0.0	50.0
Like	6.7	66.7	40.0
Really like	33.3	27.7	6,7
Very Much Like	60.0	6.7	3.3
Total	100	100	100

The results of the assessment obtained can be seen that the average value given by the panelists to the aroma of the *kepok* banana heart nugget with variations in the addition of catfish meat, namely the highest results from 100% liking to very much liking was P2 and P3.

Table 2. Results of aroma evaluation of nugget

Levels of Liking	Aroma		
	P1	P2	P3
	%	%	%
Very Dislike	0	0	0
Dislike	3.3	0	0
Like	63.3	3.3	70.0
Really like	26.7	36.7	23.3
Very Much Like	6.7	60.0	6.7
Total	100	100	100

The results obtained can be seen that the average value given by the panelists to the texture of the *kepok* banana heart nugget with variations in the addition of catfish meat, the highest results obtained are 100% in P2 with the category of sports to very, very like.

Table 3. Results of texture evaluation of nugget

Levels of Liking	Texture		
	P1	P2	P3
	%	%	%
Very Dislike	0	0	0
Dislike	46.7	0	6.7
Like	33.3	13.3	73.3
Really like	10.0	26.7	13.3
Very Much Like	10.0	60.0	6.7
Total	100	100	100

Based on the results of the assessment, it was found that the average value given by the panelists to the taste of the *kepok* banana heart nuggets with variations in the addition of catfish meat, the highest result of 100% liking to very much liking was at P2.

Table 4. Results of taste evaluation of nugget

Levels of Liking	Taste		
	P1	P2	P3
	%	%	%
Very Dislike	0	0	0
Dislike	3.3	0	36.7
Like	63.3	26.7	53.3
Really like	20.0	16.7	10.0
Very Much Like	13.3	56.7	0
Total	100	100	100

The results of the Kruskal Wallis test with a significant level of of 0.05. Based on the results of statistical analysis obtained p value of 0.000 <0.05 so that it can be stated that there are differences in color, aroma, texture, and taste of the three treatments of *kepok* banana heart nugget with variations in the addition of catfish meat. To find out the significant differences between the three treatments, a post hoc test was conducted. Based on the results obtained, it can be seen that the highest value of 71.27 is found in P2. Based on allthree treatments, the most preferred treatment was treatment 2, namely the ratio of 200 g of *Kepok* Banana Heart to 50 g of catfish meat.

Color is an indicator of freshness or maturity of a product. Color is one of the basic criteria for determining food quality and

guidanceabout chemical changes in food. This parameter will be assessed by the senses of the eye. Color is the biggest attraction for enjoying the aroma of food. Color in food can increase consumer acceptance of a product (Sumarlin, 2010).

In this study, the panelists preferred treatment 1 and treatment 2. This was due to the creamy white nugget product. This color appears when the material is heated, the white dough changes color to cream. This means that the more banana hearts are added, the creamier the color of the nuggets will be. This color is produced due to a non-enzymatic browning reaction according to Yunita et al (2015) in their research on the manufacture of shredded bananas and fish, it showed that the color of the shredded was very influential with the addition of more banana hearts and the more addition of banana hearts, the darker the color of the shredded will be. According to Wattimena, et al (2013) in their research on the manufacture of meatballs from banana heart, the more addition of banana heart will produce meatballs with darker color, because banana heart contains phenolic compounds which give the effect of brown color mixed with meat. Then the addition of flour as a binder which results in the gelatinization process during cooking. Based on the results of the Kruskal Wallis test analysis showed that there was a difference in the color of the *Kepok* banana heart nugget with variations in the addition of catfish meat.

Aroma is a component that participates in supporting consumer interest in a food product. Scents can be detected by the sense of smell. The aroma of a food product is able to invite consumer interest to buy or taste a processed food product.

In this study, the panelists preferred treatment 2. Basically, the banana heart has a sepat smell that comes from the sap in the banana heart, but with the boiled processing process it will remove the bad smell and remove the sap on the banana heart. The aroma of banana heart nuggets and catfish is typical of the combination of banana heart and catfish. So, the more banana blossoms are added, the more different the aroma of the nuggets will be. The aroma of fish in the nuggets is also influenced by the banana heart and other ingredients, the higher the addition of the banana heart, the more

the aroma of fish meat will be lost (Sudiono, 2017). Based on the results of the analysis of the Kruskal Wallis test, it showed that there was a difference in the aroma of the *Kepok* banana heart nugget with variations in the addition of catfish meat.

Food texture is also a component that determines the taste of a food. Food texture has an important role in influencing a person's acceptance of food. In this study, the panelists preferred treatment 2. In this study, the three treatments produced different textures. The texture produced with a lot of banana heart will produce soft nuggets due to the high water content in the banana heart, which is 83.87% (Pradana, 2012). In Sudiono's research, (2017) in the manufacture of jelawat fish balls with the addition of *kepok* banana hearts, it shows that the meatballs produced with the addition of high banana hearts affect the texture of the meatballs because the meatballs produced have a dense and compact texture. Based on the results of the Kruskal Wallis test analysis showed that there was a difference in the texture of the *Kepok* banana heart nugget with variations in the addition of catfish meat.

Taste is the most important part in terms of the taste of a food product that can attract someone and can create an impression of processed food products. Taste can be felt by the sense of taste (Cahyadi, 2012). In this study, the panelists preferred treatment 2. This was because the taste in treatment 2 was not too much and also not too little banana heart and not too much or too little addition of catfish so that it tasted good. According to Putri (2015) in her research on the raw material for making beef jerky, banana heart has tannin so that the resulting taste is astringent and slightly bitter, so the more addition of banana heart will affect the taste of the product being processed. Based on the results of the Kruskal Wallis test analysis showed that there was a difference in the taste of the *Kepok* banana heart nugget with variations in the addition of catfish meat.

CONCLUSION

There is a difference between the level of preference for the color, aroma, texture, and taste of *kepok* banana heart nuggets with variations in the addition of catfish meat in treatment 1, treatment

2, and treatment 3 with p = 0.000 <0.05. There are differences between the three treatments of *kepok* banana heart nuggets with variations in the addition of catfish meat. Of that three existing treatments, the most preferred treatment was treatment 2 based on color, aromam and texture. Further research needs to be done in order to produce nuggets with better quality and acceptability.

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