



Implementation Of The Argonoleptic Test Of Purple Sweet Potatoes Basic Biscuits As A Processing Innovation Of Mp-Asi Ages 6 – 12 Months

Implementasi Uji Argonoleptik Biskuit Berbahan Dasar Ubi Jalar Ungu Sebagai Inovasi Pengolahan Mp-Asi Usia 6 – 12 Bulan

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Article History: Received: 20- 05-2022 Revised: 24- 06 - 2022 Accepted: 29-06-2022 Published: 02-07-2022	Abstract This Community Service (PKM) aims to add insight and knowledge about the importance of writing scientific papers, techniques, and procedures for writing scientific publication articles, concepts, and techniques for publishing articles in national scientific journals, to the management of Scientific Publication Journals. Infancy is the most important period because it is a period that is very vulnerable to malnutrition. The provision of breast milk substitutes (MP-ASI) has an important role in overcoming the problem of malnutrition in infants. Purple sweet potatoes can help meet nutritional needs because they contain complex nutrients, namely carbohydrates, protein, fat, vitamins, iron, fiber, and anthocyanins. This type of research is an experiment that aims to determine the organoleptic test on biscuits substituted with purple sweet potato flour. The research population was mothers of infants aged 6-12 months and infants aged 6-12 months with a total population of 293 people. The sampling technique was purposive sampling with a total sample of 29 mothers of infants aged 6-12 months and 29 infants aged 6-12 months. The results of the organoleptic test showed that the level of preference for color was very like (38%) liked (55%) taste was very like (55%) liked (45%), the texture was very like (31%) liked (48%), the aroma was very like (34 %) liked (48%) and the acceptability test for 6-12 months babies liked it (93%). The results of this study can be useful as complementary foods for breast milk so that it can meet the daily nutritional needs of babies. It is recommended that further research be carried out to increase the preference value on the color, texture, and aroma of purple sweet potato biscuits Keywords: purple sweet potato, complementary feeding biscuits, 6-12 months baby
	Abstrak Pengabdian Kepada Masyarakat (PKM) ini dilakukan bertujuan untuk menambah wawasan dan pengetahuan tentang pentingnya menulis karya tulis ilmiah, teknik dan tatacara menulis artikel publikasi ilmiah, konsep dan teknik publikasi artikel pada jurnal ilmiah nasional, hingga manajemen Jurnal Publikasi Ilmiah. Masa bayi merupakan masa yang paling penting karena merupakan masa yang sangat rawan terhadap kekurangan gizi. Pemberian makanan pengganti air susu ibu (MP-ASI) mempunyai peranan penting menanggulangi masalah kekurangan gizi pada bayi. Ubi jalar ungu dapat membantu memenuhi kebutuhan gizi karena memiliki kandungan gizi yang komplek yaitu karbohidrat, protein, lemak, vitamin, zat besi, serat dan antosianin. Jenis penelitian ini yaitu eksperimen yang bertujuan mengetahui uji organoleptik pada biskuit yang disubstitusikan dengan tepung ubi jalar ungu. Populasi penelitiann yaitu ibu bayi usia 6-12 bulan dan bayi usia 6-12 bulan dengan jumlah populasi sebanyak 293 orang. Teknik pengambilan sampel purposive sampling dengan jumlah sampel 29 ibu bayi usia 6-12 bulan dan 29 bayi usia 6-12 bulan %.



Hasil uji organoleptik didapatkan tingkat kesukaan pada warna sangat suka (38%) suka (55%) rasa sangat suka (55%) suka (45%), tekstur sangat suka (31%) suka (48%), aroma sangat suka (34%) suka (48%) dan uji daya terima bayi 6-12 bulan suka (93%). Hasil penelitian ini dapat bermanfaat sebagai makanan pendamping air susu ibu sehingga dapat memenuhi kebutuhan zat gizi perhari bayi. Disarankan agar dilakukan penelitian lanjutan untuk meningkatkan nilai kesukaan pada warna, tekstur, dan aroma biskuit ubi jalar ungu

Kata kunci : ubi jalar ungu, biskuit MP-ASI, bayi 6-12 bulan

INTRODUCTION

Infancy and childhood is the most important period in human development because infancy and childhood growth and development occurs which determines the quality of human resources in the future. Infancy and childhood is also very vulnerable period. lack of nutrients so that they are susceptible to disease. (Rezki Ananda, 2018). UNICEF in *The State of the World's Children 2019 on Children, Food and Nutrition* reported that 49.9% of children aged 0–59 months who experienced poor growth were in South Asia. North America is the part that has the lowest stunting rate, which is 11.8%. (UNICEF, 2019). The results of the 2018 Basic Health Research stated that the percentage of malnutrition in children aged 0-59 months in Indonesia was 3.9%, while the percentage of malnutrition was 13.8% with the 2018 target of 17.7%. The presentation of lean nutrition is 6.7%, very thin 3.5%, and the percentage of fat is 8.0% (Risesdas, 2018). According to data from the West Sumatra Health Office in 2020, the percentage of children under five who are *underweight* is 9.43%, those who are *wasting* 6.1%, and those who are stunted are 14.295 %. The highest percentage experiencing *underweight*, *wasting*, and *stunting* is in Sijunjung Regency. (West Sumatra Health Office, 2020). The prevalence of nutritional status in Bukittinggi City is *underweight* 4.44% *stunting* 13.3% *wasting* 4.2% There are 7,181 children under five in Bukittinggi City in 2019. (Bukittinggi City Health Office, 2019)

Nutritional problems do not only occur in Indonesia but also occur in other developing countries and are a double burden. The provision of breast milk substitutes (MP-ASI) is expected to have an important role in overcoming the problem of malnutrition in infants. Food intake in the amount and content of very important nutrients is needed for the growth and development of infants and toddlers. After the baby is six months old, the nutritional content of breast milk is no longer sufficient because the baby's energy needs increase compared to the needs at the age of 3-5 months. (Wirdani, 2018). In Deby Rezki Ananda's research, there is data from the *World Health Organization* (WHO) in 2016 that the provision of complementary feeding for breast milk (MP-ASI) in the world did not reach the target, which was only 38% of the 50% target. In Indonesia 2016 based on data from the Ministry of Health of the Republic of Indonesia in 2017, 54% of infants received MP-ASI with a national target of 80%. (Ministry of Health RI, 2017). Complementary foods for breast milk (MP-ASI) are foods or drinks that contain nutrients that need to be given to babies after 6 months of age to increase their nutritional needs. The basic ingredients of MP-ASI are rice, carrots, beans, and sweet potatoes, one of which is purple sweet potato which is a good food source as a complementary food ingredient for breast milk. Eating purple sweet potatoes can help with nutritional needs because purple sweet potatoes have a very complex nutritional content. The nutritional content of sweet potatoes is 1.8% protein, 27.9% carbohydrates, 0.7% fat, 68.5% water, 0.4% sugar content, 123 Cal calories, 1.2% crude fiber. , 2011)

One example of complementary foods that can be given to children is biscuits. Biscuits are products produced from baking dough made of wheat flour and the addition of other foods and or the addition of permitted food additives. On the problem of nutritional status above and seeing the high nutritional content of purple sweet potato which is beneficial for the baby, the author wants to make an



innovation in processing products made from purple sweet potato as a complementary food in the form of biscuits..

METHOD

This type of research is an experimental study by making treatment of making MP-ASI biscuits substituted with purple sweet potato flour and then seeing its effect on the organoleptic test. This research was conducted in two places, namely the working area of the Nilam Sari Health Center in Bukittinggi City and the Padang Industrial Research and Standardization Center which was carried out from May to August 2021. The population of this study was all mothers and babies aged 6-12 months in the working area of the Nilam Sari Health Center as many as 293 people. The sample of this study was 10% of the population, namely 29 infants 6-12 months and 29 mothers of infants aged 6-12 months. Organoleptic tests were carried out on four parameters, namely color, aroma, taste, and texture because consumers liked or disliked a product. This study will test the level of preference for purple sweet potato biscuits in infants aged 6-12 months and to determine the color, aroma, taste, and texture will be determined by the baby's mother.

RESULTS AND DISCUSSION

An organoleptic test is a test that asks respondents or panelists to express their responses in the form of liking or disliking the properties of the material being tested (Lamusu, 2018). Organoleptic tests were carried out on four parameters, namely color, aroma, taste, and texture which would be determined by the respondent's mother for infants aged 6-12 months, and the level of preference or acceptance test which would be determined by infants aged 6-12 months.

Acceptance Test for infants 6-12 months

Acceptability of purple sweet potato biscuits was measured using the *smiley method* and the percentage spent on infants aged 6-12 months.

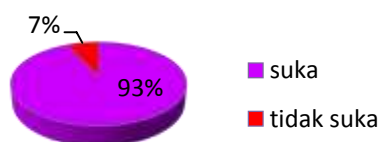


Figure 1. Pie Diagram of Purple Sweet Potato Biscuits Acceptance

Based on the pie chart, shows that 93% of infants aged 6-12 months give an expression of liking and are categorized as good purple sweet potato biscuit acceptance. Meanwhile, 7% of infants showed dislike expressions.

Color

Color plays an important role in determining the level of consumer acceptance of a product, even though the product has high nutritional value, good taste, and good texture, if the color is not attractive it will cause the product to be less attractive. This is based on the first step that consumers do when they want to choose a particular product, namely by observing the color appearance of the product (Utami, 2016)



The color of purple sweet potato biscuit products tends to be brownish purple after being baked using the oven. This is in accordance with Lidiyasi's 2006 research, the brown color of the biscuits is caused by the baking process causing the *reaction*, namely the browning reaction that occurs between carbohydrates, specifically reducing sugars and primary amine groups (Lamusu, 2018)



Figure 2. Chart of Respondents' Preference Level for Purple Sweet Potato Biscuit Color

In Figure 2. It can be seen that the highest level of preference for the color of MP-ASI biscuits made from purple sweet potato flour is 55% (like) and the lowest level of preference for purple sweet potato biscuits is 0% (dislike).

Taste

is an important element in determining consumer acceptance of a food product and is the second factor that affects the taste of food after the color of the product (Utami, 2016). According to Wahidah in 2010 the complexity of a taste is produced by the diversity of scientific perceptions. Taste is influenced by three factors, namely smell, taste, and oral stimulation.

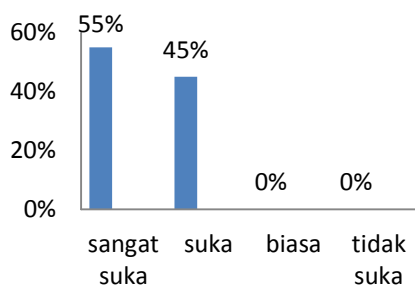


Figure 3. Chart of Respondents' Level of Preference for the Taste of Purple Sweet Potato Biscuits

In Figure 3. It can be seen that the highest level of preference for the taste of MP-ASI biscuits made from purple sweet potato flour is 55% (very much like) and the lowest level of liking for purple sweet potato biscuits is 0% at the usual level and dislike.

From the results of the organoleptic test on the respondent's preference level, it showed that the taste of the purple sweet potato flour biscuit was delicious, as much as 55% really liked it. Respondents are addicted to the delicious delicious taste of biscuits when eaten.

Texture

The texture is the sensation of pressure that can be observed with the mouth when it is bitten, chewed, and swallowed or can be touched with the fingers. The texture is just as important as smell, taste, and aroma because it affects the image of the food. Soft and crunchy are the most important in textures (Lamusu, 2018)

The texture of a product, especially in biscuits, is related to the water content of the product. The high water content makes the biscuits not crunchy and the texture is less favorable. In addition, the fat content also affects the texture of the biscuits (Utami, 2016)

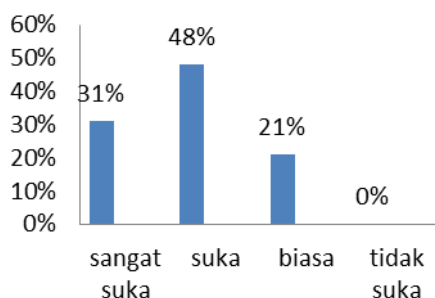


Figure 4. Chart of Respondents' Level of Preference for the Texture of Purple Sweet Potato Biscuits

In Figure 4. It can be seen that the highest level of preference for the texture of complimentary food biscuits made from purple sweet potato flour is 48% (like) and the lowest level of preference for purple sweet potato biscuits is 0% (dislike).

The texture of the purple sweet potato flour biscuit is crispier and not soggy because the dough is made according to the dosage. The crunchy texture of sweet potato flour biscuits is also due to the low water content in the biscuits. In making purple sweet potato flour biscuits, it is necessary to pay attention to the ingredients used to be smooth, then pay attention to the moisture content of the biscuits in order to get a good biscuit texture that does not feel hard and not too soft.

Aroma

Aroma is one of the sensory testing parameters (organoleptic) using the sense of smell. Aroma is acceptable if the resulting material has a specific aroma. Aroma is a very subjective taste and smell and is difficult to measure because everyone has different sensitivities and preferences. Even though they can detect it, each individual has different preferences. (Utami, 2016)

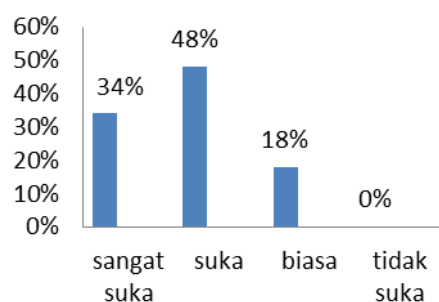


Figure 5. Chart of Respondents' Preference Level Results on the Aroma of Purple Sweet Potato Biscuits

In Figure 5. It can be seen that the highest level of preference for the aroma of complementary feeding biscuits made from purple sweet potato flour is 48% (like) and the lowest level of preference for purple sweet potato biscuits is 0% (dislike).

The aroma contained in purple sweet potato flour biscuits has a less distinctive aroma than a purple sweet potato. Because in the process of making biscuits, there is more wheat flour than purple sweet potato flour. The aroma can determine whether or not a product is worth consuming or not.



CONCLUSION

Implementation in the field by giving purple sweet potato MP-ASI biscuits can be useful as a complementary food for breast milk because it has a high nutritional content so that it can meet the daily nutritional needs of babies. It is recommended further research to increase the value of preference for color, texture, and aroma as well as laboratory tests for nutritional levels of vitamins, zinc, and anthocyanins in purple sweet potato biscuits.

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