STIKES BANYUWANGI INTERNATIONAL HEALTH CONFERENCE

EDUCATION OF HIGH-PROTEIN AND FLAVONOID ALTERNATIVE DEODORIZING SNACK INNOVATION

Nelly Rossi Pertiwi[1], Dina Puspita Sari[2], Nabila Fike Hardianti[3], Siti Ulpiyah[4]
Atik Pramesti W[5]
[1] Diploma 3 in Nursing Program, STIKes Banyuwangi, Indonesia, nellyalesha17@gmail.com
[2] Diploma 3 in Nursing Program, STIKes Banyuwangi, Indonesia, dinapuss543@gmail.com
[3] Diploma 3 in Nursing Program, STIKes Banyuwangi, Indonesia; nabilafike@gmail.com
[4] Diploma 3 in Nursing Program, STIKes Banyuwangi, Indonesia, sitiulpiyah690@gmail.com
[5] Diploma 3 in Nursing Program, STIKes Banyuwangi, Indonesia,atikpramesti@stikesbanyuwangi.ac.id

ABSTRACT~~~~~~
Fish consumption in Banyuwangi is at 63.57 kg per capita in 2022. Processed food products made from fish are fairly minimal and the processing is still monotonous, children are reluctant to consume fish. Mernying fish (Macarel) plays a role in increasing brain intelligence containing 22% protein, 1% fat, 109 calories of energy, healthy fats (DHA), calcium, iron, phosphorus. Beluntas leaves (Pluchea indica L) are wild plants containing 17.78-19.02 protein, 98.25 mg vitamin C and 2.55 g carotene, as well as flavonoids or antibacterials that can eliminate body odor. Community service activities began on May 10, 2024, the formation of a committee and making snack products made from mernying fish and beluntas leaves, then the service team assembled each production stage into an educational video that was easy for the community to understand. Health education for Family Welfare Movement in Banjarsari village totaling 18 people was held on August 09, 2024. Demographic data 39% of participants are late adult age group (36-45 years), 83% are housewives and 55% have high school education, almost all (80%) participants consume fish by frying, (80%) rarely utilize beluntas leaves. After being given health education, 85% of Family Welfare Movement understood how to make snacks from mernying fish and beluntas leaves.

Keywords: ***Mernying Fish; Beluntas; Snacks; Mom***

ABSTRAK~~~~~~
Konsumsi ikan di Banyuwangi pada angka 63,57 kg per kapita pada tahun 2022. Produk olahan pangan berbahan dasar ikan terbilang minim dan pengolahannya masih monoton anak-anak enggan mengkonsumsi ikan. Ikan mernying (Macarel) berperan meningkatan kecerdasan otak kandungan protein 22%, lemak 1%, energi 109 kalori, lemak sehat (DHA), kalsium, zat besi, fosfor. Daun beluntas (Pluchea indica L) adalah tumbuhan liar mengandung 17,78-19,02 protein, 98,25 mg vitamin C dan 2,55 g karoten, serta flavonoid atau antibakteri yang bisa menghilangkan bau badan.

Kegiatan pengabdian masyarakat dimulai tanggal 10 Mei 2024 pembentukan panitia dan pembuatan produk camilan berbahan dasar ikan mernying dan daun beluntas selanjutnya tim pengabdi merangkai setiap tahap produksi menjadi video edukatif yang mudah dipahami Masyarakat. Pendidikan Kesehatan pada ibu-ibu PKK kelurahan Banjarsari berjumlah 18 Orang dilaksanakan tanggal 09 Agustus 2024. Data demografi 39% peserta adalah kelompok usia dewasa akhir (36-45 tahun), 83 % Ibu Rumah Tangga dan 55% berpendidikan SMA, hampir seluruhnya (80%) peserta mengkonsumsi ikan dengan cara digoreng, (80%) jarang memanfaatkan daun beluntas. Setelah diberikan Pendidikan Kesehatan ibu-ibu PKK 85% memahami cara membuat camilan dari ikan mernying dan daun beluntas.

Keywords: ***Ikan Mernying; Beluntas; Camilan; Ibu***

INTRODUCTION

Good food plays a very supportive role in helping to improve children's learning concentration, especially for children with learning difficulties. But good food is not necessarily healthy; healthy food is that which meets the needs for macro and micronutrients. In today's era, the high consumption of carbohydrate-rich foods, preservatives, and fats causes children to struggle with learning, become easily drowsy, and negatively impacts their concentration. Saltwater fish such as mackerel, tuna, skipjack, and so on are examples of the healthiest side dishes. Because it contains various essential nutrients such as protein, omega-3 fatty acids, iron, niacin, phosphorus, and vitamins D and B12. Saltwater fish also contains iodine, reaching 83 micrograms per 100 grams. Due to its content, seafood effectively enhances the strength and intelligence of the brain, both in children and adults. The benefits of this fish are related to its omega-3 fatty acid content, which is crucial for normal brain function and development at all stages of life. Fish is a good source of protein for the body (Hidayati dan Gaffar, 2023).

Fish is one of the best sources of protein for the body. Banyuwangi's geography with a coastline length of 175.8 kilometers makes it one of the largest marine fish producing areas in Indonesia. According to BPS Banyuwangi has produced 43,575 tons of fish in 2021, both marine and fresh fish. Banyuwangi has increased fish consumption to 63.57 kg per capita in 2022. This puts Banyuwangi as the best district or city in increasing fish consumption in Indonesia. There are many types of saltwater fish catches obtained by Banyuwangi fishermen, one of which is mernying fish which is slightly flat and elongated with the latin name *decapterus russelli* which has an average production from 2015 to 2018 of 26,334.49 tons / year and increased by 40.2%. The total production of fishermen's catch in February 2020 was 235,092 tons of mernying fish, 207,280 tons of tuna and 74,474 tons of sardinella fish (Rahmiati et al., 2023).

Snacks are foods that are eaten when you are hungry or between main meals. The most consumed types of snacks are sweet foods such as cookies, waffles and chocolate. (Irferamuna et al., 2019). In 2019, Mondelez International, an international company from America, active in the food, beverage and snack industry conducted a survey called “The State of Snacking” with 12 countries including Indonesia. The survey found that Indonesia is the country that consumes the most snacks with an average of 2.7 per day, with the number of other countries being lower at an average of 2.26. This relates to the results of The State of Snacking survey conducted on Indonesians, where up to 60% of consumers expect healthier snacks in the future, which are high in vitamins (60%), low in sugar (57%) and fresh (56%).

(SUYUTI, 2019).

The utilization of mernying fish in the Banyuwangi area is generally for making pindang or selling it in fresh form. The issue with mernying fish SMEs is the lack of innovation that can be implemented in the processing of mernying fish. As a result, people often only know that mernying fish can be processed into pindang or fried (Rahmiati et al., 2023).

Beluntas, or its latin name *Pluchea indica*, is a plant commonly used in traditional medicine. The beluntas leaf has antibacterial effects. This beautiful plant grows naturally in gardens and fields up to 800 meters above sea level and in areas with little sunlight or shade. The chemical composition of beluntas leaves consists of alkaloids (0.316%), flavonoids (4.18%), tannins (2.351%), essential oils (4.47%), phenols, chlorogenic acid, sodium, calcium, magnesium, and phosphorus. Beluntas leaves contain 17.78-19.02% protein, 98.25 mg/100 g of vitamin C, and 2.55 g/100 g of carotene, as well as flavonoids (antibacterial) that can eliminate body odor (Febrianto, 2022).

The Indonesian people have long known crackers as a snack. This type of food is generally consumed as an appetizer that can stimulate the appetite or simply enjoyed as a snack. Crackers are well-known across all ages and social levels in society. The production of crackers is currently widely carried out by home industries because it does not require special skills for its making. The efforts in the cracker industry can boost the income of the community. Considering that crackers are relatively affordable and familiar to the taste buds of the Indonesian people, the business in the cracker sector has quite a bright prospect (SUYUTI, 2019).

Various companies and SMEs have been producing crackers to meet the needs of the community. Many types of crackers are made, ranging from rice, wheat flour, to tapioca flour. In addition to the delicious taste, the aspect of nutritional fulfillment is now being taken into account by the community, leading to an increased interest in crackers made from ingredients that contain sufficient nutrients. Among them are crackers made from fruits and vegetables. Vegetables and fruits are among the perishable commodities, so a method of processing is needed to enhance the shelf life of these commodities. The main purpose of food processing, besides preserving perishable products so they can be stored and marketed throughout the year both domestically and internationally, is to transform raw materials into new products, thereby increasing their utility. One of the processing methods that can be carried out is the processing of fish into crackers. Fish-based cracker products usually only recognize fish such as tuna, mackerel, or skipjack. It is very rare to find fish cracker snacks made (Kusumaningrum, 2020).

The purpose of this program is :

1. Creating innovative products in the PKM program
2. Providing information on how to process snack foods based on mernying fish and beluntas leaves

The results that will be achieved are :

- MenTas snack products
- The mernying fish is utilized to produce both food and non-food products that have a high market value.

METHODS

The implementation method involves processing products made from mernying fish and beluntas leaves, and offering them to the community through social media platforms like Instagram and WhatsApp. Additionally, community service activities will be conducted, including health education and product socialization of MenTas for the family welfare movement mothers in Banjarsari village. The stages of implementation are detailed as follows:

1. Analysis of the situation regarding the needs and interests of the community, particularly teenagers, about the need for snack products made from mernying fish and beluntas leaves.
2. Determining product innovation for snacks by utilizing natural resources in Banyuwangi, namely mernying fish and beluntas leaves, which have high nutritional value.
3. Identifying literature on fish processing as food products and beluntas leaves to determine the benefits of the products based on evidence.
4. Compiling the method for producing the product, including tools, materials, and procedures for product creation.
5. Creating an innovative snack product called Mentas.
6. Conducting nutritional value testing of the Mentas product at UPT PMP2KP Banyuwangi.
7. Socializing the Mentas product both online and offline.
8. Preparing posters to convey the benefits of the Mentas innovation product.
9. Preparing an ex-banner to introduce the benefits of the product.
10. Implementing community service activities.

RESULTS

This PKM-K empowers highly nutritious food ingredients based on abundant local commodities in Banyuwangi, such as beluntas leaves and mernying fish, as an innovation for modern snacks. The high content of flavonoids and protein in beluntas leaves and mernying fish, along with the form of snacks that are easy to enjoy for all age groups, especially teenagers. This makes this snack very suitable as a modern treat to accompany you when you're hungry, as it is rich in nutrients.

Based on the market survey results conducted online from February 1 to 3, 2024, with 85 respondents residing in Banyuwangi aged 9 to 24 years (results https://www.shorturl.asia/id/3OZfM), A total of 74 respondents (87.1%) were interested in processed fish products made from mernying and beluntas leaves, while the remaining 11 respondents (12.9%) were not interested in these processed products.

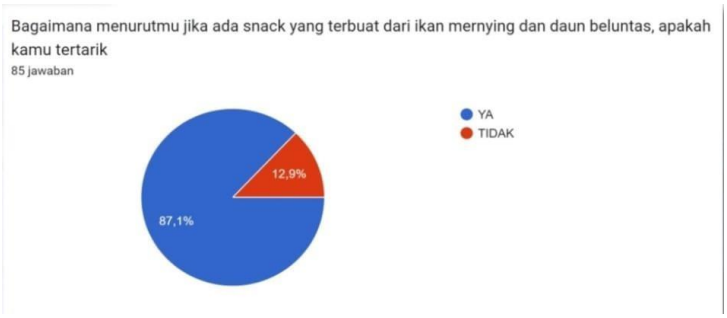

Figure 1. Results of the market survey on interest in mernying fish snacks and beluntas leaves.

On August 9, 2024, our team conducted a community service activity in the form of health education and socialization of an innovative snack product that is high in protein and rich in flavonoids as an alternative to body odor removal for 18 members of the Family Welfare Movement in Banjarsari. Based on the results of the community service, nearly all participants (80%) consume fish primarily fried, while almost all (80%) rarely utilize the beluntas leaves, and 20% process the beluntas leaves by steaming. Based on demographic data, 39% of participants are in the late adult age group (36-45 years), 83% are housewives, and 55% have a high school education.

Figure 2. Photo of MenTas products and packaging.

Figure 3. Documentation of product sales

Figure 4. Documentation of community service activities with the Banjarsari

DISCUSSION

The high percentage of fish consumption in Banyuwangi has led us to innovate the product "MenTas" a blend of Mernying and Beluntas. This product is a snack made from mernying fish, rich in protein and omega-3, which are essential for brain intelligence, complemented by a sprinkle of dried beluntas leaves that contain flavonoids (antibacterial) to prevent body odor. The mernying fish, which has a somewhat flattened and elongated shape, is scientifically named Decapterus russelli. Its average production from 2015 to 2018 was 26,334.49 tons per year, showing an increase of 40.2%. The total catch production by fishermen in February 2020 included 235.092 tons of mernying fish, 207.280 tons of skipjack tuna, and 74.474 tons of sardinella fish. The nutritional content of mernying fish includes 22% protein, 1% fat, 109 calories of energy, healthy fats such as docosahexaenoic acid (DHA), calcium, iron, phosphorus, vitamin A, omega-3, vitamin K1, vitamin K2, and so on. Based on testimonials from participants in the community service activity, which involved health education and the socialization of an innovative snack product high in protein and rich in flavonoids as an alternative for body odor elimination, 18 members of the Family Welfare Program in Banjarsari expressed positive comments about the MenTas product. This provides us with a great opportunity to distribute MenTas products to the general public on a larger scale.

CONCLUSION

This PKM-K product empowers natural resources and offers solutions in protein-rich snack innovation, featuring antibacterial properties and healthy fats such as docosahexaenoic acid (DHA), which is essential for brain intelligence. It is based on a blend of mernying fish and dried beluntas leaves, containing 17.78-19.02% protein, 98.25 mg/100 g of vitamin C, and 2.55 g/100 g of carotene, as well as flavonoids (antibacterial) that help eliminate body odor. The teenage years are a period when individuals are very active both in school and outside of it, leading to increased sweat production and the growth of Staphylococcus hominis bacteria, which produce a strong body odor. When these bacteria mix with sweat, a breakdown of the chemical molecules in sweat occurs, resulting in sharp-smelling compounds (thioalcohol). It is this pungent aroma that emerges when the body sweats. On the other hand, issues such as difficulty in thinking, lack of focus, or weakness in grasping information are often experienced by teenagers, especially during their learning process in school. The MenTas innovation is expected

to address that issue.

CORESPONDENCE

Atik Pramesti Wilujeng, S.Kep.,Ns. M.Kep *atikpramesti@stikesbanyuwangi.ac.id*

REFERENCE

Febrianto, H. 2022. Merawat Tradisi Mempertahankan Eksistensi: Studi Etnobotani Tanaman Obat Suku Osing Kabupaten Banyuwangi. Jurnal Biosense, 5(2): 100–110.

Hidayati, N., & Gaffar Rahman, A. 2023. Implementation Of Blue Economy Policy On Mandar Banyuwangi Village As Tourism Potential Based On Local Wisdom Implementasi Kebijakan Blue Economy Terhadap Kampung Mandar Banyuwangi Sebagai Potensi Wisata Bebasis Kearifan Lokal Gorontalo Law Review. Gorontalo Law Review, 5(Blue Economy):412– 423.

Rahmiati, R., Djauhari, A. B., Hartati, F. K., Prayudanti, A. A., Sucahyo, B. S., Wirawan, I., Yusrudin, Y., & Hartini, S. S. 2023. Penyuluhan Tentang Olahan Pangan Kekinian Bagi Anak-Anak Pada Anggota Posyandu. MONSU'ANI TANO Jurnal Pengabdian Masyarakat, 6(2): 323.

Sanjaya, Y. A., Safa, A., Wahfi, A., & Tri, N. 2023. Jurnal Pengolahan Perikanan Tropis Kabupaten Lamongan [Consumption Pattern of Fishery Products by Lamongan Regency Communities]: 15–21.

Departemen Perindustrian dan Perdagangan. 1996. Petunjuk Teknis Pembuatan Makanan Olahan Kerupuk. Dirjen Industri Hasil Pertanian dan Kehutanan, Jakarta.

Kusumaningrum, I. (2020) 'KARAKTERISTIK KERUPUK IKAN FORTIFIKASI KALSIUM DARI TULANG IKAN BELIDA The Characteristic of Calcium Fortified Fish Keropok from Belida Fish Bone', Jphpi, 19(3), pp. 233–240. Available at: https://doi.org/10.17844/jphpi.2016.19.3.233.