

## YOUTH COUNSELING WITH THE USE OF LAI FRUIT AS AN IMMUNE ENHANCER FOR COASTAL ADOLESCENTS

Ika Yulianti<sup>1</sup>, Doris Noviani<sup>2</sup>, Qolbi Nur J<sup>3</sup>, Cut Wilda Safira<sup>4</sup>,  
Nur Aisyah Fitriani<sup>5</sup>, Yunika Ayu Hardani<sup>6</sup>,  
Hardilla Jamaina Sulmi<sup>7</sup>

DOI: <https://doi.org/10.61796/jscs.v1i3.197>

Received: 23-09-2024

Accepted: 26-09-2024

Published: 29-09-2024

### Abstract:

**General Background:** Nutritional deficiencies among adolescents can significantly impact immune function, particularly in coastal areas where access to diverse food sources may be limited. **Specific Background:** Kalimantan Lai Fruit (*Durio kutejensis*) is a local resource that has received little attention regarding its nutritional potential and health benefits. **Knowledge Gap:** Despite its availability, there is insufficient data on the fruit's nutrient composition and its role in enhancing immunity among adolescents. **Aims:** This study aims to analyze the nutritional content of Kalimantan Lai Fruit and evaluate its impact on the immune health of adolescents in coastal communities. **Results:** Through systematic sampling and laboratory analysis, findings revealed that Lai Fruit is rich in essential nutrients, including high levels of protein, healthy fats, vitamin C, and iron. These nutrients are crucial for promoting health and enhancing the immune system. **Novelty:** This research not only provides a comprehensive analysis of the nutritional profile of Lai Fruit but also includes an extension program that successfully increased knowledge among children about immunity and healthy lifestyles. **Implications:** The results underscore the potential of Lai Fruit as a valuable dietary source for improving adolescent nutrition and health. Furthermore, the study contributes to community health initiatives by promoting the integration of local food resources into dietary practices, thereby addressing nutritional deficiencies and fostering healthier lifestyles among adolescents in coastal areas.

**Keywords:** *Lai fruit, nutrition, immunity, youth, counseling*

### INTRODUCTION

Borneo Lai fruit, or *Durio kutejensis*, is a type of fruit that has high economic value and local wisdom in Kalimantan. The nutrition of this fruit has attracted attention in various studies due to its potential as a rich source of protein, fat, vitamins, water content, and iron. The potential of the Lai commodity is promising, with growing demand and few competitors due to its ability to grow and produce efficiently in East Kalimantan (Khotimah, 2024).

An in-depth analysis of its nutritional content is important to comprehensively understand the nutritional value of this fruit. Previous research has highlighted the uniqueness of Lai Fruit in terms of nutrition, but there is still an opportunity for further exploration of its detailed nutritional composition. Lai Fruit has significant nutritional content, including protein, fat, vitamins, water content, and minerals such as iron. Protein in Lai Fruit is quite important for the construction of body tissues and nutritional balance (Khotimah, 2024).

In addition, the vitamin and mineral content in Lai Fruit, such as vitamin C, vitamin B complex, and vitamin A, provides a wide range of health benefits. Some studies show that Lai Fruit also has potential as a natural antioxidant, which can protect the body from cell damage caused by free radicals and other environmental factors. Vitamin C, in particular, is known as one of the main antioxidants that boost the immune system and reduce the risk of disease (Khotimah, 2024).

Important minerals such as iron are also present in Lai Fruit. Iron deficiency can lead to anemia and other health problems, so consumption of Lai Fruit, which is rich in this mineral, can help meet the body's needs. In addition, research shows that Lai Fruit contains various types of fats, including saturated, monounsaturated and polyunsaturated fatty acids. Essential fatty acids such as omega-3 and omega-6 found in Lai Fruit play an important role in maintaining heart health, brain function, and the nervous system (Triadiawarman, 2017).

In this context, this study aims to analyze in more depth the protein, fat, vitamins, water content, and iron content in Borneo Lai Fruit. The data obtained is expected to contribute significantly to the understanding of the health potential contained in this fruit.

The aim of this research is to produce accurate and reliable data regarding the nutritional content of Borneo Lai Fruit, so that this information can be used as a basis for choosing healthy and nutritious foods. With a better understanding of the nutrition of this fruit, it is expected to make a positive contribution to public health promotion, especially in the context of nutrient-rich local foods.

The methodology used includes sampling of Lai Fruit from various representative locations, laboratory analysis to measure protein, fat, vitamin, moisture and iron content, and interpretation of the data to generate relevant and scientific information. The comprehensive methodological approach is expected to be a valuable reference for researchers and practitioners in the field of nutrition and public health.

In addition to the specific benefits for understanding the nutrition of Borneo Lai Fruit, this research is also relevant in the context of public health and local food sustainability. By highlighting the nutritional content of this fruit, this study also illustrates the potential of other local fruits as sources of beneficial

nutrients. In the era of food globalization and changing consumption patterns, understanding the nutritional value of local fruits such as Buah Lai Kalimantan is becoming increasingly important.

This research is expected to support the promotion of healthy and diverse local food consumption, as well as maintaining genetic diversity and local wisdom in food culture. In addition, this research also has the potential to contribute to the development of innovative food products based on Kalimantan Lai Fruit, opening opportunities for healthy and nutritious processed products, thus providing added value to the local food industry and consumer health.

In the context of nutrition education and counseling, the information generated can be used as educational material for the community, especially in promoting healthy eating patterns and nutritious food selection. Thus, this research has the potential to have a positive impact on improving the health and well-being of the community at large.

## **RESEARCH METHODS**

The type of research conducted is field research with a descriptive quantitative approach and literature review (Nashrullah, Fahyuni, Nurdyansyah, & Untari, 2023). Some of the steps taken when conducting a literature review are as follows: (1) Physical Analysis of Lai Fruit, which includes observation of characteristics such as taste, skin color, and pulp. (2) Nutrition Content Test of Lai Fruit, where the sample used is the flesh of Lai fruit which is then analyzed proximate to measure the content of protein, fat, and iron (Fe).

## **RESULTS AND DISCUSSION**

Borneo's Lai Fruit has a sweet taste with a touch of fresh sourness, making it popular for its unique flavor. The distinctive aroma of Buah Lai provides a special sensory experience for consumers. Its texture observed in the field tends to be dry, soft, and smooth, with a soft or even scentless aroma, in contrast to other durians that have a sharp aroma. The flesh of Lai Fruit has a soft yet dense texture, with fine fibers that provide a pleasant chewing sensation. The skin of the fruit is brownish-green in color and has sharp spines that are not hard. Its bright yellow to bright orange flesh color indicates good ripeness and high natural pigment content.

The nutritional content of Borneo Lai Fruit is excellent, which indicates that it is rich in essential nutrients such as protein, healthy fats, vitamins (including vitamins C, A, and E), water content, and iron. Its high protein content makes it a good source for daily protein requirements, while its healthy fats contribute to heart health. Lai fruit contains protein per 100 grams, which is an essential nutrient for building and repairing body tissues, maintaining muscle health, and supporting other biological functions. This high protein content also

appeals to vegetarians or vegans looking for a nutrient-rich source of plant-based protein.

These findings are in line with previous studies that revealed the nutritional value of Lai Fruit, including its protein content. The nutritional composition of Borneo Lai Fruit in detail, including its significant protein content. In addition to protein, Lai Fruit also contains fat, with the study showing a balanced fat content of 2.90%, also indicating that Borneo Lai Fruit contains fat, the majority of which is unsaturated fatty acids that are beneficial to health. The balanced fat content in Lai Fruit has positive health implications, as healthy fatty acids such as oleic and linoleic acid can help maintain a healthy heart and blood vessels. In addition, fat is necessary for the absorption of fat-soluble vitamins such as A, D, E, and K. This finding is consistent with previous studies which also noted that Lai Fruit has a balanced fat content and is beneficial to health.

Target achievement:

1. Knowledge Improvement:

Children in coastal areas showed increased knowledge on basic concepts of immunity.

2. Adoption of Healthy Lifestyle:

The education program on balanced nutrition resulted in behavioral changes. 60% of children started to consume more fruits and vegetables after the program.



Figure 1. Documentation of community service activities

Service to coastal children on immunity has had a positive impact, both in terms of knowledge and behavior. Immunity, as the body's defense system, is very important to protect children from various diseases, especially in areas prone to infection. Our immunity education involves interactive methods, such as games and group discussions, which make the material easier to understand. This is in line with active learning theory that emphasizes learner involvement in the

learning process.

Adopting a healthy lifestyle, including good nutrition, is the main focus. We provided information on nutrients that support the immune system, such as vitamin C and zinc, which can be found in fruits and vegetables. Encouraging children to eat nutritious foods is an important step in building their immunity. Especially the cookies we made using Lai, which has many benefits in boosting immunity. The distinctive flavor makes children love the cookies. Therefore, the children were very enthusiastic in listening to the socialization.

Parental involvement is also an important factor in the success of this program, which targets children in coastal areas. Involving parents or community leaders who have important influence helps us to create broader support for children to apply what they learn.

Socialization on immunization has shown significant results. Increased awareness of the importance of immunity can help reduce the risk of preventable diseases. This shows that health education not only benefits the child but also the community as a whole. Especially children in coastal areas.

Overall, this service program provided a better understanding of the immunity present in lai fruit and good health practices. Hopefully, the knowledge gained can be passed on to peers, family and the surrounding community. This can create a sustainable impact in the coastal community.

## CONCLUSIONS

Borneo's Lai fruit, has unique flavor characteristics with a combination of sweet and sour, as well as an attractive distinctive aroma. Its soft and dense texture, along with the bright color of the flesh, indicates good quality and ripeness. The nutritional content of Lai Fruit is very favorable, rich in protein, healthy fats, vitamins, moisture content, and iron, making it a beneficial source of nutrients for health.

Research shows that the high protein content makes it a good choice to fulfill protein needs, especially for vegetarians. In addition, the balanced fats, especially unsaturated fatty acids, contribute positively to heart health and vitamin absorption. Thus, Borneo Lai Fruit not only has potential as a nutritious food source, but also contributes to the promotion of healthy diets and local food sustainability.

## REFERENCES

- Khotimah, K., "Analisis Kandungan Nutrisi (Protein, Lemak, Vitamin, Kadar Air, Besi) Buah Lai Kalimantan (Durio Kutejensis)," *Jurnal Nutrisi dan Pangan*, vol. 1, no. 2, pp. 45-50, 2024.
- Triadiawarman, D., "Analisis Kandungan C-Organik dan Nitrogen di Areal Tanaman Lai (Durio Kutejensis) di Desa Peridan Kecamatan Sangkulirang

Kabupaten Kutai Timur," *Jurnal Pertanian dan Lingkungan*, vol. 5, no. 1, pp. 22-30, 2017.

- Nashrullah, M., Fahyuni, E. F., Nurdyansyah, N., & Untari, R. S. (2023). Metodologi Penelitian Pendidikan (Prosedur Penelitian, Subyek Penelitian, Dan Pengembangan Teknik Pengumpulan Data). In *Metodologi Penelitian Pendidikan (Prosedur Penelitian, Subyek Penelitian, Dan Pengembangan Teknik Pengumpulan Data)*. <https://doi.org/10.21070/2023/978-623-464-071-7>
- Zulkarnaen, H., Arisandra, M. L., & Saputra, R. A. K., "Pelatihan Penyusunan Laporan Keuangan Pada Mahasiswa Universitas Islam Darul Ulum Lamongan," *Jurnal Pengabdian Masyarakat: BAKTI KITA*, vol 3, no.2, pp. 19-36, 2022.