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Transforming Protein Consumption Patterns: The Role Of Chicken Eggs Among Pattimura University Students

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Abstract

This study aims to analyze the role of chicken eggs as an alternative source of protein in the consumption patterns of Pattimura University students. Although the protein consumption of the Indonesian people has been sufficient in quantity, the contribution of animal protein other than fish and meat is still limited. Chicken eggs are a potential choice because they are affordable, highly nutritious, and easy to obtain. The study used a quantitative approach with a descriptive survey method of 120 respondents selected by purposive sampling. Data were collected through questionnaires and analyzed descriptively. The results show that the majority of students consume eggs 1–2 times per week. The main reasons for consumption are affordable prices (41.70%) and ease of processing (29.20%). Most respondents have a positive perception that eggs can replace meat and fish protein and meet daily protein needs. The main factor that affects consumption is price, followed by availability, practicality, and nutritional knowledge. Chicken eggs play an important role as an alternative source of protein for students, especially in conditions of economic limitations, although nutrition education is still needed to increase the diversity of protein consumption.

Keywords: chicken eggs, protein consumption, college students, consumption behavior

INTRODUCTION

Protein is an essential nutrient that plays an important role in growth, repair of body tissues, and maintain the human metabolic system. Based on data from the National Socio-Economic Survey (Susenas), the protein consumption of the Indonesian people in 2022 reached around 62.21 grams per capita per day, which in quantity has met the nutritional adequacy figure. However, the contribution of animal protein is still relatively limited, where

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consumption from eggs and milk is only around 3.37 grams per capita per day, lower than fish (9.58 grams) and meat (4.79 grams) (Ministry of Health of the Republic of Indonesia, 2023). This condition shows that the quality of protein consumption, especially animal protein, still needs to be improved.

One potential source of animal protein is chicken eggs. Eggs have a high nutritional content with a complete composition of essential amino acids, and a relatively more affordable price than meat and fish. Data from the Central Statistics Agency shows that egg consumption in Indonesia in 2024 will reach around 22.16 kg per capita per year and is experiencing an increasing trend compared to the previous year (BPS, 2024). In addition, the Ministry of Agriculture's projections show that egg consumption will continue to increase for the next few years in line with the growth of income and community nutritional awareness (Ministry of Agriculture, 2023). This indicates that eggs have a strategic role as an alternative source of protein.

However, when compared to other countries in the Southeast Asian region, the level of egg consumption in Indonesia is still relatively low, which is around 300 eggs per capita per year, while in countries such as Malaysia and Singapore it reaches 500-600 eggs per capita per year (BKKBN, 2023). This difference shows both opportunities and challenges in increasing egg consumption as an economical and easily accessible source of protein (Manalu et al, 2024).

On the other hand, food consumption behavior, especially among students, is greatly influenced by various factors such as income level (pocket money), food prices, taste preferences, nutritional knowledge, and lifestyle. Students as a productive age group have a high protein need, but often face economic and time limitations, so they tend to choose practical and affordable protein sources (Rukmana et al, 2025). In this case, eggs are often used as an alternative to meat and fish. Research shows that eggs have the property of substituting goods for other animal protein sources, especially when there are price changes or limited access (Astiwi, 2024).

A number of previous studies have examined the consumption of animal protein and chicken eggs from various perspectives. Research by Astiwi (2024) shows that price, income, and the number of family members have a significant effect on the demand for purebred chicken eggs in Indonesia. Another study by Septinova et al. (2023) found that nutrition education can increase public understanding of the importance of egg consumption as an affordable source of animal protein. In addition, Atmaja et al. (2026) affirm that eggs have a high-quality protein content that is equivalent to other animal protein sources.

Research by Mustafa et al. (2024) conducted in the Maluku region shows that the consumption patterns of animal protein in the community are still dominated by fish, but

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there are variations in consumption influenced by economic factors and food availability. Meanwhile, research by Atmaja et al. (2026) shows that adequate consumption of animal protein has a positive relationship with improved quality of health and individual productivity.

In the Maluku region, including Ambon City, although it is known as an area with high potential for fishery resources, the reality is that the consumption of animal protein by the community still varies. Distribution, price, and consumption preferences cause not all people, including students, to rely on fish as the main source of protein. This opens up opportunities for eggs to become an alternative source of protein that is more stable in terms of availability and price.

Although various studies have examined animal protein consumption and egg demand, most of them still focus on general consumption levels, economic factors, or demand analysis at the household level (Pralampita & Utomo, 2024). Research that specifically examines the behavior of egg consumption as a substitute for protein sources other than fish and meat in student groups, especially in the Maluku region and in the context of Pattimura University, is still very limited. In addition, studies that integrate behavioral aspects (preferences, perceptions, and consumption habits) with students' socioeconomic conditions have also not been widely carried out.

Thus, there is a research gap in the form of limited empirical studies that specifically analyze the role of eggs as a substitute protein source in the context of student consumption behavior in archipelagic areas such as Maluku. In fact, the characteristics of the region and socio-economic conditions of students can provide different dynamics compared to other regions in Indonesia.

Based on this description, research on the behavior of chicken egg consumption as a substitute for protein sources other than fish and meat in Pattimura University students is important to be carried out. This research is expected to provide a more comprehensive understanding of consumption patterns, factors influencing consumption decisions, and the potential for developing a more effective strategy to increase animal protein consumption, especially through optimizing the role of eggs as an alternative protein source

RESEARCH METHODS

The research method used in this study is a quantitative approach with a descriptive survey method that aims to describe the consumption behavior of chicken eggs as a substitute for protein sources other than fish and meat in Pattimura University students. The research was carried out at Pattimura University, Ambon City, within 2 months (February-March) which included the preparation stage, data collection, and analysis. The population

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in this study is all active students, while the sample is determined using purposive sampling techniques with the criteria of students who are still active and have consumed chicken eggs in the past month. The number of student respondents in this study was 120 respondents. The data used consisted of primary data obtained through the distribution of questionnaires as well as secondary data sourced from literature, scientific journals, and related documents.

RESULTS AND DISCUSSION

Respondent Characteristics

The characteristics of the respondents in this study describe the general profile of Pattimura University students involved as a sample, including demographic and socioeconomic aspects. Respondents were dominated by the age group of >17 years old who were at the level of strata one education (S1). Most respondents came from lower-middle-class economic backgrounds, with the main source of income coming from parents or scholarships. The characteristics of the respondents in this study can be seen in Table 1.

Table 1. Characteristics of Pattimura University Student Respondents

Characteristics	Category	Total (n=120)	Percentage (%)
Gender	Male	53	44.17
	Famale	67	55.83
Age (years)	17-19	78	65.00
	20-22	21	17.50
	>22	21	17.50
Pocket money / month (IDR)	<500.000	80	66.67
	≥500,000-1,000,000	25	20.83
	>1,000,000	15	12.50

Source: Primary data obtained, 2026

The results showed that the majority of respondents were women and were in the age range of 17-19 years. Most students have an allowance of less than Rp 500,000 per month, which shows limited purchasing power. This condition affects food consumption patterns, where students have begun to tend to choose more affordable protein sources such as chicken eggs. This is in line with research by Pahlavi & Afiza (2020) which states that economic factors greatly influence food choice, especially in low-income groups.

Frequency of Consumption of Chicken Eggs

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The frequency of chicken egg consumption is one of the important indicators in understanding students' diets, especially in meeting daily protein needs. This consumption rate reflects how often chicken eggs are used as an alternative source of protein, which is influenced by various factors such as price, availability, practicality, and nutritional knowledge. By analyzing the frequency of consumption, this study can provide an overview of the role of chicken eggs in students' food consumption patterns. The frequency of chicken egg consumption by Pattimura University students can be seen in Table 2.

Table 2. Frequency of Consumption of Chicken Eggs

Frequency of Consumption (times/week)	Quantity	Percentage (%)
Never	14	11.66
1–2	57	47.50
3–4	27	22.70
>4	22	18.33

Source: Primary data obtained, 2026

The majority of respondents consumed chicken eggs 1-2 times per week (table 2). This shows that chicken eggs are a fairly dominant source of protein in the diet of students. This high consumption is supported by ease of access and relatively stable prices compared to fish and meat (Sundari et al, 2025). According to the Food and Agriculture Organization (FAO, 2013), eggs are an economical source of animal protein and have high biological value so that they are widely consumed by people with various economic levels.

Reasons to Eat Chicken Eggs

The reason for consuming chicken eggs is an important aspect to be studied in understanding student consumption behavior towards alternative protein sources. The decision to choose chicken eggs is inseparable from various considerations, such as relatively affordable prices, ease of processing, high nutritional content, and easy availability. In addition, taste preferences and consumption habits also influence these choices. By identifying these reasons, research can provide a more in-depth picture of the factors that drive students to choose chicken eggs as part of their daily consumption patterns. The main reasons for consuming chicken eggs can be seen in Table 3.

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Table 3. The Main Reasons for Chicken Egg Consumption

Reason	Quantity	Percentage (%)
Affordable price	50	41.70
Easy to process	35	29.20
Easy to obtain	20	16.70
Nutritional content	15	12.50

Source: Primary data obtained, 2026

The price factor is the main reason for students to consume chicken eggs, followed by ease of processing. This shows that consumption decisions are influenced more by practical and economic factors than by nutritional factors. Research by Kumolo et al. (2022) explains that food preferences are influenced by external factors such as price and ease of access, in addition to internal factors such as knowledge and taste.

Students' Perception of the Role of Eggs as a Substitute for Protein

Students' perception of the role of eggs as a substitute for protein sources is important to be studied in understanding food consumption patterns in academic circles. This view reflects the extent to which students consider chicken eggs to be able to meet protein needs compared to other protein sources such as fish and meat. By analyzing this perception, research can provide an overview of the acceptance rate of eggs as an alternative to protein in students' daily lives. Students' perception of eggs as a substitute for protein can be seen in Table 4.

Table 4. Students' Perception of Eggs as a Protein Substitute

Description	Agree (%)	Disagree (%)
Eggs can replace meat protein	70	30
Eggs can replace fish protein	65	35
Eggs are enough to meet their daily protein needs	75	25

Source: Primary data obtained, 2026

Most college students agree that chicken eggs can be a protein substitute for fish and meat. This shows that there is good acceptance of eggs as an alternative source of protein (Suhartina et al, 2025). Scientifically, eggs contain complete essential amino acids, so they are able to support the body's protein needs. According to the World Health Organization

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(2007), animal proteins such as eggs are of high quality because they are easily digestible and contain a balanced amino acid composition.

Factors Affecting Chicken Egg Consumption in Pattimura University Students

Factors that affect the consumption of chicken eggs in Pattimura University students are an important aspect in understanding the pattern of protein source selection among students. Consumption decisions are not only influenced by nutritional needs, but also by various other factors such as price, availability, ease of processing, and nutritional knowledge. In addition, social factors and knowledge about nutritional value also play a role in shaping these consumption habits. By identifying these factors, research can provide a more comprehensive picture of the reasons behind high or low consumption of chicken eggs among college students. Factors that affect the consumption of chicken eggs according to students can be seen in Table 5.

Table 5. Factors Affecting Chicken Egg Consumption

Factors Affecting	Percentage (%)
Pricing	40
Availability	25
Practicality	20
Nutritional knowledge	15

Source: Primary data obtained, 2026

The price factor is the dominant factor in influencing the consumption of chicken eggs. This shows that students as a group with economic limitations will be more sensitive to changes in food prices. In addition, availability and practicality factors also play an important role. These findings are in line with the research of Rorimpandey et al (2020) which states that the food environment and accessibility greatly influence individual consumption behavior.

CONCLUSION

Chicken eggs are a major alternative source of protein for Pattimura University students, mainly due to their price, convenience, and availability. However, there is still a need to improve nutrition education so that students can understand the importance of variety of protein sources.

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