



Determinants Of Food Choices on The Nutritional Status Of Adolescents In Merauke

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Abstract

The issue of food selection or food choice among adolescents who often neglect health considerations has become one of the main public health concerns today. This pattern of food choice behavior among adolescents has significantly contributed to various health problems. This study aims to analyze the factors influencing food choices and their relationship with the nutritional status of adolescents in Merauke City. The factors examined in this study include health aspects, sensory appeal, price, convenience, and adolescents' familiarity with the food. The research employed a cross-sectional design. Data were collected through questionnaires and nutritional status measurements of 56 respondents based on Body Mass Index (BMI). Data analysis was conducted using the Statistical Package for Social Sciences (SPSS) software, with both univariate and bivariate analyses. The results show that health-related reasons are weakly correlated with adolescents' nutritional status. Sensory appeal is moderately correlated with nutritional status. There is no relationship between price and nutritional status. Convenience is weakly correlated with nutritional status. Familiarity with food shows a strong correlation with adolescents' nutritional status. This study concludes that the factor most strongly associated with the nutritional status of adolescents in Merauke is food selection based on their familiarity with certain types of food.

Keywords: *Adolescent, Determinant, Food Choices, Nutrient*

@Jurnal Ners Prodi Sarjana Keperawatan & Profesi Ners FIK UP 2025

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INTRODUCTION

The issue of food selection or food choice among adolescents, which is often disregarded in terms of health, has become one of the major problems in health issues (Anawati 2013). The behavioral pattern of food choice in adolescents

has at least led to significant losses in health matters (Renzo et al 2020). In developed countries such as America and Europe, teenagers have food choices or food choices that sometimes do not pay attention to the nutritional content in food but because of other factors such as social trends or convenience factors in fast food such as fried chicken, pizza, spaghetti, and burgers (Aulia and Yuliati 2018). In Canada, 70 percent of adolescents choose food without regard to health problems, with more likely due to attention to weight control (Ree et al, 2008). In Indonesia, teenagers have the habit of choosing food or food choices that are not much different from other developed countries. Teenagers today prefer to eat food and spend time in cafes or restaurants that are not at all concerned with health aspects but because of life style or popular culture that is loved today by modern society (Rahayuningtyas 2016).

Among adolescents in Indonesia, the consumption of fast food, soft drinks, fried foods and sugar are more in demand than consuming vegetables and fruits to meet the nutritional needs of their bodies, especially when they are in adolescence or the period of development and growth (Ratih et al. 2022).

Bad food choice behavior patterns which tend to lead to unhealthy behavior will eventually lead to the state of nutritional status of adolescents in Indonesia to be abnormal. According to Basic Health Research Ministry of Health 2018 data, the prevalence of nutritional status (BMI/U) of adolescents with vulnerable ages 13-15 years is very thin 1.9%, thin 6.7%, normal 73.2%, fat 12.3%, and obesity 5.9%. While in adolescents aged 16-18 years, they are very thin 1.6%, thin 7.1%, normal 75.9%, obese 10.7% and obese 4.8% (Kemenkes RI 2018). This nutritional and health status problem indicates that the food consumption of adolescents in Indonesia is experiencing unfavorable conditions where it is influenced by food selection.

Food choice in adolescents is part of their process in choosing the type of food to be consumed, which is influenced by various factors such as healthy food, the influence of sensory or taste appeal to food, affordable prices, ease of getting it and familiarity or familiarity with the food and various other factors (Viera et al, 2019).

This is in accordance with the results of initial observations conducted by researchers on adolescents in Merauke City who found that there

are still many teenagers in Merauke City who have not paid much attention to the health and nutritional aspects of food. Food selection in adolescents in the city of Merauke is based on taste factors and daily habits in consuming food.

This is also reflected in the data from the Merauke District Health Office in South Papua province which shows that there are 56 percent of adolescents who are malnourished, 23 percent are obese and 21 adolescents who have normal nutritional status. This nutritional status problem could be caused by the food choice behavior of teenagers in Merauke city that is not appropriate in supporting the health or nutritional status of their bodies.

This problem is also added by the phenomenon of rapid culinary business growth and modern lifestyle changes of the people of Merauke, causing the selection of food from teenagers to be not good and not oriented to health elements. Moreover, the selection of food in adolescents does not consider the important aspect that the food will have an impact on the level of Health and nutrition levels owned by adolescents who will then become a health investment in the future.

Therefore, various factors that influence the selection of food from adolescents are considered important to be considered and researched in depth. Thus, this study aims to determine the determinant factors of food choice on the nutritional status of adolescents in Merauke City.

METHODS

This type of research is a quantitative descriptive research using cross sectional design. While the data collection of this study was carried out in May-June 2025 in Mandala and Muli sub-districts of Merauke City, South Papua province.

The population in this study consisted of all teenagers living in the Mandala and Muli sub-districts of Merauke City. The sample of 56 respondents was selected using simple random sampling, giving each member of the population an equal chance to be chosen so that the sample could represent the population. The criteria for the sample were teenagers aged 15–24 years, living in Mandala or Muli sub-districts, being conscious and physically and mentally healthy, and willing to participate by signing a consent form.

This study used primary data collected directly from respondents. The data consisted of three main components: respondents'

characteristics, factors influencing food choices, and measurements of nutritional status. The respondents' characteristics recorded were name, age, gender, and level of education. Data on food choice factors included health considerations, sensory appeal, price, convenience, and familiarity with the food.

Nutritional status was assessed using the Body Mass Index for Age (BMI/A), calculated from anthropometric measurements of weight and height, following the standard guidelines issued by the Indonesian Ministry of Health (Kemenkes, 2020). Nutritional status was then categorized based on BMI/A z-scores into two groups: normal and abnormal. The abnormal category combined both undernutrition (underweight) and overnutrition (overweight/obese) statuses.

Weight weighing using digital scales with a capacity of 120 kg with a level of accuracy of 0.1 kg with the GEA brand while height measurement using a microtoice with a capacity of 200 cm with a level of accuracy of 0.1 cm with the GEA brand.

This study uses quantitative data analysis to determine the consideration of adolescents in choosing food and nutritional status in adolescents.

Data were collected using research instruments in the form of online questionnaires through google form designed in the form of statements. Data analysis in this study using Statistical Package for Social Sciences (SPSS) application program by performing univariate and bivariate analysis. For univariate analysis descriptive analysis was carried out and for bivariate analysis used cross tabulation analysis and the Pearson product moment (r) correlation test which aims to determine the level of closeness of the relationship between variable on variable Y, namely the nutritional status of adolescents.

Categorization of relationship degree from Pearson product moment (r) correlation test used the co-efficient interval value below:

Table 1. Pearson correlation coefficient

Interval Coefficient	Correlation Closeness
0.00-0.20	very weak
0.21-0.40	ground
0.41-0.70	medium
0.71-0.99	Very Strong
1	Perfect

Source : Nugroho (2005)

RESULTS AND DISCUSSION

Univariate analysis

Univariate analysis presents the frequency distribution of research variables.

Table 2. Frequency Distribution of Respondents Based on Adolescent Age

Variable	N	(%)
Age		
15-17	10	17,8
18-20	20	35,7
21-24	26	46,5
Total	56	100

[Source: primary data, 2025]

Table2 shows that the majority of respondents are teenagers aged 21-24 years, with 26 respondents (46.5%). A total of 20 respondents (35.7%) fall into the age category of 18-20 years, and 10 respondents (17.8%) fall into the age category of 15-17 years.

Table3. Frequency Distribution of Respondents Based on Gender of Adolescent

Variable	N	(%)
Gender		
Male	32	57,2
Female	24	42,8
Total	56	100

[Source: primary data, 2025]

Table 3 shows that most of the respondents are teenagers with male gender of 32 (43.9%) and as many as 24 respondents with female gender (42.8%).

Table 4. Frequency Distribution Of Respondents Based On The Level Of Education Of Adolescents

Variable	N	(%)
Level of Education		
Junior High School	5	8,9
High school	24	42,8
College	27	48,3
Total	56	100

[Source: primary data, 2025]

Table 4 shows that most of the respondents are teenagers who have college education level as many as 27 respondents have high school education level and as many as 5 respondents have Junior High Education Level (8.9%).

Table 5. Frequency Distribution Of Respondents Based On Nutritional Status of Adolescents

Variable	N	(%)
Nutritional Status		
Normal	41	73,2
Abnormal	15	26,8
Total	56	100

[Source: primary data, 2025]

Table 5 shows that the majority of respondents who have normal nutritional status is as many as 41 respondents (73.2%) and as many as 15 respondents (26.8%) who have abnormal nutritional status.

Table 6. Frequency Distribution Of Respondents Based On Factors Of Food Selection Reasons

Variable	N	(%)
Health reasons		
Yes	28	50
No	28	50
Total	56	100
Reasons for sensory appeal		
Yes	43	76,8
No	13	23,2
Total	56	100
Price reasons		
Yes	41	73,2
No	15	26,8
Total	56	100
Reasons for convenience		
Yes	39	69,6
No	17	30,4
Total	56	100
Reasons for familiarity		
Yes	41	73,2
No	15	26,8
Total	56	100

[Source: primary data, 2025]

Based on the information presented in table 6, it is known that the frequency distribution of respondents based on food selection factors, it is found that 28 teenagers (50%) choose food based on health factors, while another 28 teenagers (50%) do not choose food based on health factors. A total of 43 respondents (76.8%) choose food based on sensory appeal, while 13 respondents (23.2%) do not choose food based on sensory appeal. Additionally, 41 respondents (73.2%) choose food based on price, while 15 respondents (26.8%) do not choose food based on price. Furthermore, 39 respondents (69.6%) choose food

based on convenience, while 17 respondents (30.4%) do not choose food based on convenience. Lastly, 41 respondents (73.2%) choose food based on familiarity, and 15 respondents (26.8%) do not choose food based on familiarity.

Bivariate analysis

In the bivariate analysis, cross-tabulation analysis and Pearson product-moment correlation test (r) were employed with the aim of determining the degree of association between variables related to reasons for food selection such as health, sensory appeal, price, convenience, and familiarity with the nutritional status variable of teenagers.

Table 7. Correlation of food choices based on health factors, sensory ability, price, convenience, and familiarity with nutritional status among adolescents

Variable	Nutritional Status		Total		Pearson Correlation	P Value
	Normal	Abnormal	n	%		
Health reasons					0,40	0,687
Yes	21	7	28	50		
No	27	8	35	62		
Reasons for sensory appeal					0,49	0,717
Yes	32	11	43	76,8		
No	9	4	13	23,2		
Price reasons					0,093	0,497
Yes	29	12	41	73,2		
No	11	4	15	26,8		
Reasons for convenience					0,302	0,024
Yes	29	10	39	69,6		
No	11	6	17	30,4		

	2	,0	0	5	0	
Reasons for familiarity						0,818 0,000
Yes	2	70	1	29,	4	10
	9	,7	2	3	1	0
No	1	80	3	20,	1	1
	2	,0	0	5	0	0

[Source: primary data, 2025]

Based on the information presented in table 7, it is known that the significance value or p value on the relationship between food selection due to health factors with the nutritional status of adolescents was 0.687 (> 0.05). This means that there is no correlation between food selection due to health factors and the nutritional status of adolescents in Merauke city. Meanwhile, the pearson correlation value obtained is 0.40, then this means that the degree of relationship between food selection due to health factors with the nutritional status of adolescents is weakly correlated..

Based on the information presented in table 7, the results of correlation test results and cross-tabulation showed that the significance value or p value on the relationship between food selection due to sensory attraction factor with adolescent nutritional status was 0.717 (> 0.05). This means that there is no correlation between food selection as a factor of sensory attraction with the nutritional status of adolescents in Merauke city. Meanwhile, the pearson correlation value obtained was 0.49, then this means that the degree of relationship between food selection due to sensory attraction factors with the nutritional status of adolescents is moderately correlated.

Based on the information presented in table 7, it is known that the results of correlation test and cross-tabulation showed that the significance value or p value on the relationship between food selection due to price factors with the nutritional status of adolescents was 0.497 (> 0.05). This means that there is no correlation between food selection due to price factors and the nutritional status of adolescents in Merauke city. Meanwhile, the pearson correlation value obtained is 0.093, then this means that the degree of relationship between food selection due to price factors with the nutritional status of adolescents is no correlation.

Based on the information presented in table 7, the results of correlation test results and cross-tabulation showed that the significance value or p value on the relationship between the selection of food due to the convenience factor with the nutritional status of adolescents is 0.024 (< 0.05). This means that there is a correlation between food selection due to convenience and the nutritional status of adolescents in Merauke city. Meanwhile, the pearson correlation value obtained is 0.302, then this means that the degree of relationship between food selection due to Convenience factors and the nutritional status of adolescents is weakly correlated.

The information in table 7 shows that the significance value or p value on the relationship between food selection due to familiarity with the nutritional status of adolescents is 0.000 (< 0.05). This means that there is a correlation between food selection due to familiarity with the nutritional status of adolescents in Merauke city. Meanwhile, the pearson correlation value obtained is 0.818, then this means that the degree of relationship between food selection due to price factors with the nutritional status of adolescents is very strongly correlated.

Relationship between food selection based on health reasons with the nutritional status of adolescents

The results found that there was weakly correlated between food selection based on health reasons and nutritional status in Merauke city adolescents. This indicates that information about nutrition or health about the diet of adolescents is not at all enough to affect the nutritional status of them. The cause can occur because teenagers in Merauke City are more likely to consume practical and simple foods rather than prioritizing health reasons or nutritional content of food.

In addition, adolescents who have a good nutritional understanding of food do not necessarily adopt healthy, diverse, and nutritious consumption habits. This can cause the nutritional status of respondents to be less than optimal. There are other determining factors such as body image, environment, and socioeconomic conditions that can affect nutritional status, even though their nutritional knowledge is quite good.

Despite having adequate understanding, teenagers are often affected by their surroundings, for example by having abundant pocket money. This causes adolescents to tend to buy unhealthy

foods, and this condition negatively affects their nutritional status.

The results of this study are in line with previous research conducted from Siregar et al (2023) which found that there was no relationship between knowledge of balanced nutrition and the nutritional status of adolescent girls with a value of $p = 0.597$ (Siregar et al, 2023). The results of this study also support research conducted by Pantaleon (2019) that there is no significant relationship between nutritional knowledge and the nutritional status of adolescent girls ($p=0.619$) (Pantaleon 2019). The reason for this trend is that the influence of knowledge is indirect on nutritional status, while the direct cause of nutritional problems involves nutritional intake and infection (Supariasa et al, 2012).

Relationship between food selection based on reasons for sensory appeal with the nutritional status of adolescents

The research results indicate that there is moderately correlated between food selection based on sensory appeal factors and nutritional status in teenagers in Merauke city. This may occur because the aroma of food only serves to enhance someone's appetite and enthusiasm to consume the food, causing teenagers to overlook the nutritional content of the food.

Azrimaidaliza et al (2011) states that the sensory appeal of food only has the ability to stimulate the appetite and create preferences, providing stimulation to someone's sense of smell, thus influencing them to consume the food. In the study by Azrimaidaliza et al (2011) it was found that the percentage of staple food selection based on food characteristics showed that the majority of teenagers in Padang City tend to consider taste, color, portion size, aroma, and texture more than the nutritional content of the food (Azrimaidaliza et al, 2011).

Food selection based on taste can be said to not determine a person's nutritional status as it only has sensory appeal. Previous research on food selection in Malaysia conducted Rahman et al (2013) concluded that the third factor influencing food selection in Malaysia is sensory appeal, including pleasant taste and aroma. This study also found that sensory appeal, or the food appeal, is the third factor with a significant contribution value (Rahman et al, 2013).

This is also the case with teenagers in Merauke, who mostly prioritize the taste appeal of

food. Foods that are delicious and visually appealing, even if they do not have a positive impact on their health, will be chosen to be consumed regularly.

Relationship between food selection based on price factors with the nutritional status of adolescents

The research found that there is no correlation between food selection based on price factors and nutritional status among adolescents in the city of Merauke. This can be influenced by various other factors such as limited nutritional knowledge among adolescents and the misconception that healthy food is expensive. A majority of adolescents still perceive that the price reflects the quality of food products. However, in reality, healthy food is not always expensive, such as certain meats sold in restaurants or bread and cakes sold in supermarkets.

Moreover, the majority of adolescents in Merauke still consider price as a determining factor in their food choices. They tend to select foods that align with their purchasing power, and most importantly, these foods must have a delicious taste. For adolescents with limited economic resources, they tend to choose foods like fried snacks, fatty meat, rice, flour, and those high in sugar because not only are they more economical, but they also provide a pleasurable and satiating experience. Additionally, the cost incurred to satisfy their hunger is lower (Nuzrina et al, 2010).

This research aligns with a study conducted by Iffathurjannah et al (2021) which found a relationship between price and its impact on consumer purchasing decisions. This is due to the fact that the price of a product becomes a consideration for consumers when making purchases. Consequently, consumers will contemplate the price in relation to their purchasing power (Iffathurjannah et al, 2021).

This research also indicates that the majority of respondents choose food based on price, amounting to 43 individuals (76.8%). These findings align with a previous study conducted by Ratih et al (2022), which found that the primary reason for food choices among students is the emphasis on price (Ratih et al. 2022).

Price has a strong influence on food choices. The cost of food is the most crucial element for individuals with low incomes compared to other factors. Incentivizing prices

can be an effective intervention strategy to influence individual food purchases. A decrease in prices has a powerful impact on the purchasing patterns of targeted food items in workplaces and school cafeterias for adolescents (French 2003).

Relationship between food selection based on reasons for convenience with the nutritional status of adolescents

The research results indicate that there is moderately correlated between food selection based on convenience factors and nutritional status among adolescents in the city of Merauke. This is attributed to other factors such as the mood of adolescents. Besides convenience or comfort, mood is also a determining factor in how an individual can feel good or relaxed. Stress due to busy activities, such as school or college, can be a reason why they choose food based on its ability to provide calmness and entertainment. Therefore, simultaneously, for the sake of practicality and simplicity, adolescents may consume foods that pose health risks, such as excessive consumption of instant noodles.

This is supported by the data analysis results showing that a majority of respondents in the study, amounting to 39 individuals (69.6%), choose food that is easy and comfortable to consume. This finding is consistent with research conducted by Asma et al (2010), which found that comfort is the most important factor in food selection, and at the same time, comfort for respondents can also mean ease in preparing food (Asma et al. 2010).

Relationship between food selection based on reasons for familiarity with the nutritional status of adolescents

The findings of this study indicate that there is a significant relationship between food selection based on familiarity with the nutritional status of adolescents in Merauke city. This is due to the influence of healthy food consumption habits that have been accustomed to since in the family environment. The positive influence of healthy eating habits in families can shape adolescent food consumption patterns (Sundari 2003).

Familiarity with the type of food can be interpreted as a teenager's habit of food that is often consumed at home and also food that is not foreign to him. From the environment of the family environment they get a good parenting

about good consumption patterns with appropriate frequency of eating and suggested by health. This is in accordance with research by Iskandar et al (2022) which shows that there is an influence of parental parenting on balanced nutritional feeding (Iskandar et al, 2022).

In research conducted by Rottie (2013) mentioned that the relationship between diet and nutritional status is very strong. Balanced nutritional intake from food has a crucial role in the process of adolescent growth, especially if accompanied by a good and regular diet that needs to be introduced early. This includes an introduction to meal times and food variety, which can help coordinate the needs of a healthy diet in children. It is emphasized that efforts to address very important nutritional problems involve regulating diet. The application of a good and proper diet is very important to help overcome nutritional problems that are crucial for children's growth. This can be reinforced by the correct nutritional intake, so that good nutritional status can be achieved (Rottie 2013).

In addition, this is also supported by the profile of the average respondent who has parents who work as farmers so that teenagers are not difficult to get access to healthy and fresh food at home. They can eat vegetables and fruits at home. The availability of food at home is the initial capital to form good nutrition in children. This is as found by Hartina et al (2022) in her research that there is a meaningful relationship between household food availability and the nutritional status of adolescents in Huntara Asam III, Ulujadi District, Palu City with p value = 0.024 ($p < 0.05$). With the availability of food and wide access to food, it can improve the nutritional status of adolescents (Hartina et al, 2022).

CONCLUSION

This study concluded that the factor most closely related to the nutritional status of adolescents in Merauke is food selection based on their familiarity with certain types of food. This may be influenced by consumption patterns within the family environment. Therefore, this study recommends prioritizing the use of local foods as an alternative to help meet the nutritional needs of adolescents. The availability of local food in Papua at more affordable prices can be a good option for parents to ensure that the nutritional needs of adolescents are met.

ACKNOWLEDGEMENTS

The authors would like to express their sincere gratitude to the Mandala and Muli village administrations in Merauke City, Merauke Regency, South Papua Province, for granting permission and support to carry out this research in their areas.

REFERENCES

- Anawati, A. 2013. "Preferensi Mahasiswa Kos Terhadap Makanan Yang Dijual Pada Warung Makan Di Dusun Nologaten, Caturtunggal, Depok, Sleman, Universitas Negeri Yogyakarta. Yogyakarta."
- Asma, A, Nawalyah Ag, Rokiah My, and Mohd Nasir Mt. 2010. "Comparison of Food Choice Motives between Malay Husbands and Wives in an Urban Community." 16(1): 69–81.
- Aulia, L., and L.N. Yulianti. 2018. "Faktor Keluarga, Media, Dan Teman Dalam Pemilihan Makanan Pada Mahasiswa PPKU IPB." *Jurnal Ilmu Keluarga dan Konsumen* 11(1): 37–48.
- Azrimaidaliza, Azrimaidaliza, and Idrul Purnakarya. 2011. "Analisis Pemilihan Makanan Pada Remaja Di Kota Padang, Sumatera Barat." *Kesmas: National Public Health Journal* 6(1): 17.
- French, S. A. 2003. "Pricing Effects on Food Choices." *The Journal of nutrition*, 133((3)): 841S-843S.
- Hartina, Abdul Hakim Laenggeng, Nurjanah. 2022. "Hubungan Pola Makan Dan Ketersediaan Pangan Rumah Tangga Dengan Status Gizi Remaja Di Huntara Asam III Kec . Ulujadi Kota Palu The Correlation Between Dietary Habit and the Availability of Household Foods with Adolescent ' s Nutritional Status in Huntara." *Sains, Jurnal Kolaboratif* 03: 203–9.
- Iffathurjannah, Mitha Indriyani, and Harti. 2021. "Pengaruh Keamanan Makanan, Harga Dan Rasa Terhadap Keputusan Pembelian Pada Konsumen Mie Lemonilo." *Jurnal Akuntabel* 18(2): 235–46.
- Iskandar, Syamsiah, and Arif Hakim. 2022. "Pengaruh Pola Asuh Orang Tua Terhadap Pemberian Makanan Gizi Seimbang Pada Anak Usia 4-6 Tahun." In In Bandung Conference Series: Early Childhood Teacher Education, 144–52.
- Kemenkes. 2020. *Standar Antropometri Anak*.
- Kemenkes RI. 2018. "Hasil Riset Kesehatan Dasar Tahun 2018." *Kementrian Kesehatan RI* 53(9): 1689–99.
- Nugroho, B. A. 2005. *Strategi Jitu Memilih Metode Statistik Penelitian Dengan SPSS*. Yogyakarta.
- Nuzrina, Rachmanida, and Sugeng Wiyono. 2010. "Biaya Bahan Makanan, Densitas Energi Makanan Dan Status Gizi Wanita Pedagang Pasar Kebayoran Lama Jakarta Selatan." 2(1): 48.
- Pantaleon, Maria Goreti. 2019. "Hubungan Pengetahuan Gizi Dan Kebiasaan Makan Dengan Status Gizi Remaja Putri Di SMA Negeri II Kota Kupang." *Journal of Chemical Information and Modeling* 3(3): 69–76.
- Rahayuningtyas, D. 2016. "Cafe Dan Ritual Ngafe Di Kalangan Anak Muda."
- Rahman, Suzanah Abdul, Muhammad Muzaffar, and Ali Khan. 2013. "Determinants of Food Choice among Adults in an Urban Community A Highlight on Risk Perception." 43(5): 413–21.
- Ratih, Dilla et al. 2022. "Alasan Pemilihan Makanan Dan Kebiasaan Mengonsumsi Makanan Sehat Pada Mahasiswa Unesa Ketintang." *Jurnal Tata Boga* 11(1): 22–32.
- Ree, M., Riedger, N., & Moghadasian, M. H. 2008. "Factors Affecting Food Selection in Canadian Population." *Eur J Clin Nutr*. 62(1):1255.
- Renzo L, Gualtieri P. 2020. "Eating Habits and Lifestyle Changes during COVID-19 Lockdown: An Italian Survey." *Journal of Translational Medicine*. Jun 8(18): 1.
- Rottie, Julia V. 2013. "Hubungan Pola Makan Dengan Status Gizi Pada Anak Di Wilayah Kerja Puskesmas Tompasso Kecamatan Tompasso." 1: 1–6.
- Siregar, Gabriella Dameria, Nova Hellen Kapantow, and Maureen I Punuh. 2023. "Hubungan Pengetahuan Gizi Seimbang Dengan Status Gizi Remaja Putri Di SMA Negeri 4 Manado." *JPAI: Jurnal Perempuan dan Anak Indonesia* 5(1): 27–33.
- Sundari, A. 2003. "Studi Tentang Gaya Hidup, Pola Konsumsi Pangan Dan Status Gizi Siswa Smu Negeri 3 Bogor." (*Doctoral dissertation, IPB (Bogor Agricultural University)*).

- Supariasa, I. D. N., Bakri, B., & Fajar, I. (. 2012).
Penilaian Status Gizi Edisi Revisi. Jakarta:
Penerbit Buku Kedokteran ECG.
- Viera Valencia, Luis Felipe, and Dubian Garcia
Giraldo. 2019. 2 Angewandte Chemie
International Edition, 6(11), 951–952. *The
Psychology of Food Choice*. ed. Cabi.