



# The Influence of Nutritional Knowledge and Food Choice Attitudes on the Eating Behavior of Adolescents in Kediri District

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## ABSTRACTS

This study aims to investigate the influence of nutritional knowledge and food choice attitudes on the eating behaviour of adolescents in Kediri Regency, East Java. A total of 77 adolescents aged 12–21 years participated in the research through purposive sampling. The study employed an observational analytic design with a cross-sectional approach. The demographic data showed that 67.53% of respondents were female and 32.47% were male. Findings indicated that 50.65% of adolescents possessed good nutritional knowledge, 64.94% demonstrated positive attitudes toward food choices, and 61.04% exhibited appropriate eating behaviours. Statistical analysis using the correlation test revealed no significant relationship between nutritional knowledge and food choice attitudes. However, there was a significant relationship between nutritional knowledge and eating behaviour, as well as between food choice attitudes and eating behaviour. Furthermore, the multiple correlation analysis yielded an R value of 0.005, suggesting that nutritional knowledge and food choice attitudes together have an influence, albeit small, on adolescent eating behaviour. These findings highlight the importance of enhancing both nutritional education and the development of positive food choice attitudes to promote healthier eating patterns among adolescents. Interventions targeting both cognitive understanding and attitude formation may therefore be critical in shaping healthier dietary habits in this population group.

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## 1. INTRODUCTION

Food is a fundamental human need that must be fulfilled continuously to support life, growth, and development. Nutritious food, rich in essential nutrients, plays a crucial role in maintaining a healthy body. To select food that benefits health, individuals require sufficient nutritional knowledge regarding the choice of food ingredients and their proper preparation methods. The habit of consuming high-quality, nutritious food can only be achieved through an awareness of the daily nutritional intake (Kurniawan & Wibowo, 2022).

A healthy diet is characterized by the consumption of a balanced variety of nutrients, including carbohydrates, proteins, vitamins, and minerals. In Indonesia, the implementation of balanced nutrition follows the Ministry of Health Regulation No. 41 of 2014, encapsulated in the "Isi Piringku" (My Plate) campaign. This guideline emphasizes balanced meal composition consisting of staple foods, side dishes, vegetables, and fruits, with appropriate portion sizes according to individual needs. It also promotes healthy lifestyle habits such as engaging in physical activity, maintaining hygiene by washing hands regularly, and drinking sufficient water (Ministry of Health, Republic of Indonesia, 2021).

Poor dietary habits can lead to dual nutritional problems, namely overnutrition (overweight and obesity) and undernutrition (underweight and stunting). These conditions significantly increase susceptibility to chronic diseases such as hypertension, cardiovascular diseases, diabetes, anaemia, and growth disorders (Putri et al., 2022). Therefore, maintaining balanced nutrition during adolescence is crucial, as this stage is a critical period for growth and development.

Adolescents, regarded as the next generation of a nation, experience a transition from childhood to adulthood, typically between the ages of 10 and 19 years (World Health Organization, 2021). This developmental period is divided into four stages: pre-adolescence (10–12 years), early adolescence (12–15 years), middle adolescence (15–18 years), and late adolescence (18–21 years) (Santrock, 2020). This study focuses on adolescents aged 12–21 years in Kediri Regency, East Java.

During adolescence, rapid physical, cognitive, and psychosocial changes occur. These transformations include increases in muscle mass, adipose tissue, and hormonal fluctuations, significantly affecting nutritional needs (Brown et al., 2021). At this stage, adolescents begin to make independent food choices, influenced by their knowledge and attitudes toward food selection (Musaiger et al., 2021).

Nutritional knowledge significantly influences adolescents' food choices. Low nutritional knowledge is recognized as a contributing factor to unhealthy eating behaviors and nutritional disorders (Alfawaz et al., 2022). Adequate nutritional knowledge enables adolescents to select foods that meet their body's needs, promoting better health outcomes (Amorim et al., 2021). Nutritional literacy encompasses understanding food composition, nutrient sources, food safety, and healthy food preparation methods (Alzahrani et al., 2022).

Furthermore, modern lifestyle shifts have led to dietary patterns characterized by higher intake of calorie-dense, fatty, and low-fiber foods, exacerbating the risk of nutritional problems among adolescents (Nasution & Daulay, 2023). Data from the Indonesian Basic Health Research (Riskesdas) 2018 reveal a rising trend in obesity among adolescents aged ≥15 years, from 26.6% in 2013 to 31% in 2018, with North Sulawesi reporting the highest prevalence at 42% (BPPS, 2018).

Changes in adolescent eating habits, often influenced by low nutritional knowledge, have been linked to poor food choices, including frequent consumption of fast food and junk food (Saptarini et al., 2021). Adolescents with good nutritional knowledge tend to make healthier food choices aligned with their physiological needs (Suraiya et al., 2022).

Based on the above background, the main problem investigated in this study is the influence of nutritional knowledge and food choice attitudes on adolescent eating behavior in Kediri Regency, East Java. This study aims to identify the relationship between nutritional knowledge, attitudes toward food choice, and eating behaviour among adolescents.

## 2. METHOD

This study employed an observational analytic design with a cross-sectional approach. A total of 77 adolescents aged between 12 and 21 years from Kediri Regency participated in the research. Participants were selected using a purposive sampling technique, which involved selecting individuals based on specific characteristics aligned with the study's objectives.

Data were collected through an online questionnaire distributed via Google Forms. The questionnaire consisted of a series of questions and statements that had been previously tested for reliability. Table 1 presents the results of the reliability tests conducted on the research instruments.

**Table 1.** Reliability Test Results

Variable	Reliability Coefficient	Criterion Value	Information
Nutrition Knowledge	0.827	0.70	Reliable
Food Choice Attitudes	0.721	0.70	Reliable
Eating Behaviour	0.723	0.70	Reliable

The data collected included participants' nutritional knowledge, food choice attitudes, eating behaviour, age, and gender. Nutritional status was assessed based on Body Mass Index (BMI) calculations.

For hypothesis testing, the chi-square test was utilized with a 95% confidence level to determine the existence of significant relationships between nutritional knowledge, food choice attitudes, and eating behaviour among adolescents. All data were tabulated and analysed according to the types of influencing variables involved.

## 3. RESULTS AND DISCUSSION

### 3.1. Respondent Characteristics

The respondents in this study were adolescents aged 12 to 21 years living in Kediri Regency, with a total of 77 participants. The collected data were organized based on research variables and are presented in the form of tables and descriptive analyses.

#### 3.1.1. Description of Respondent's Gender

As shown in Table 2, the majority of respondents were female (67.53%), while male respondents comprised 32.47% of the sample. This gender distribution suggests that female adolescents were more accessible or more willing to participate in the study.

**Table 2.** Description of Respondents' Gender

Gender	Frequency	Percentage (%)
Man	25	32.47 %
Woman	52	67.53 %
<b>Amount</b>	<b>77</b>	<b>100 %</b>

### 3.1.2. Respondents' Age Distribution

According to Table 3, the majority of respondents (57.14%) were aged 16–18 years, while the smallest group (3.90%) was aged 12–15 years.

**Table 3.** Age Description of Respondents

Age Category	Frequency	Percentage (%)
12 – 15 years old	3	3.90 %
16 – 18 years old	44	57.14 %
19 – 21 years old	30	38.96 %
<b>Amount</b>	<b>77</b>	<b>100 %</b>

### 3.1.3. Respondents' Nutritional Knowledge

The respondents' nutritional knowledge was assessed using a validated questionnaire, and the results are presented in Table 4.

**Table 4.** Description of Respondents' Nutritional Knowledge

Category	Frequency	Percentage (%)
Not enough	14	18.18 %
Enough	24	31.17 %
Good	39	50.65 %
<b>Amount</b>	<b>77</b>	<b>100 %</b>

As seen in Table 4, half of the respondents (50.65%) had good nutritional knowledge. These results are in line with previous findings indicating that nutritional education programs positively influence adolescents' nutritional knowledge (Vaitkeviciute et al., 2021).

### 3.1.4. Respondents' Food Choice Attitudes

Respondents' attitudes towards food choices are shown in Table 5.

**Table 5.** Description of Respondents' Food Choice Attitudes

Category	Frequency	Percentage (%)
Not enough	2	2.60 %
Enough	50	64.94 %
Good	25	32.47 %
<b>Amount</b>	<b>77</b>	<b>100 %</b>

Table 5 indicates that most respondents (64.94%) had an adequate attitude toward food choices. The findings align with previous studies suggesting that many adolescents exhibit

moderate attitudes towards healthy eating, influenced by peer, environmental, and media factors (Musaiger et al., 2021).

### 3.1.5. Description of Respondents' Eating Behaviour

The description of respondents' eating behaviour is presented in Table 6.

**Table 6.** Description of Respondents' Eating Behavior

Category	Frequency	Percentage (%)
Not enough	3	3.90 %
Enough	47	61.04 %
Good	27	35.06 %
<b>Amount</b>	<b>77</b>	<b>100 %</b>

As shown in Table 6, the majority of adolescents (61.04%) exhibited adequate eating behaviour, indicating that although many adolescents are aware of healthy practices, consistent implementation remains a challenge (Mahfouz et al., 2021).

## 3.2. The Relationship Between Nutritional Knowledge, Food Choice Attitudes, and Adolescents' Eating Behaviour

### 3.2.1. The Relationship Between Nutritional Knowledge and Food Choice Attitudes

**Table 7.** The Relationship between Nutritional Knowledge and Food Choice Attitudes

Attitude	Nutrition Knowledge			Total	Sig.
	Good	Adequate	Poor		
Good	17	21	1	39	0.160
Adequate	6	18	0	24	
Poor	2	11	1	14	
<b>Total</b>	<b>25</b>	<b>50</b>	<b>2</b>	<b>77</b>	

The chi-square analysis yielded a significance value of 0.160 ( $p > 0.05$ ), indicating no statistically significant relationship between nutritional knowledge and food choice attitudes. This finding is consistent with previous research suggesting that knowledge alone may not directly influence attitudes without the reinforcement of environmental and psychosocial factors (Guan et al., 2021).

### 3.2.2. The Relationship Between Nutritional Knowledge and Eating Behavior

**Table 8.** The Relationship between Nutritional Knowledge and Eating Behavior

Eating Behaviour	Nutrition Knowledge			Total	Sig.
	Good	Adequate	Poor		
Good	20	19	0	39	0.000
Adequate	7	17	0	24	
Poor	0	11	3	14	
<b>Total</b>	<b>27</b>	<b>47</b>	<b>3</b>	<b>77</b>	

A significant relationship was found ( $p = 0.000 < 0.05$ ), indicating that better nutritional knowledge is associated with healthier eating behaviour among adolescents. Nutritional knowledge is crucial in shaping food-related behaviours during adolescence, a critical period for establishing lifelong habits (Widowati et al., 2023).

### 3.2.3. The Relationship Between Food Choice Attitudes and Eating Behaviour

**Table 9.** The Relationship between Food Choice Attitude and Eating Behaviour

Eating Behaviour	Attitude			Total	Sig.
	Good	Adequate	Poor		
Good	16	9	0	25	0.005
Adequate	11	36	3	50	
Poor	0	2	0	2	
<b>Total</b>	<b>27</b>	<b>47</b>	<b>3</b>	<b>77</b>	

The results showed a significant relationship between food choice attitudes and eating behaviour ( $p = 0.005 < 0.05$ ). Adolescents with positive attitudes toward healthy food choices tend to engage in healthier eating behaviours (Alzahrani et al., 2022).

### 3.3. The Influence of Nutritional Knowledge and Food Choice Attitudes on Adolescents' Eating Behaviour

**Table 10.** The Influence of Nutritional Knowledge and Food Choice Attitude on Adolescents' Eating Behaviour

P.G	Attitude	Eating Behaviour			Total	Sig.
		Good	Adequate	Poor		
<b>Good</b>	Good	12	5	0	17	0.005
	Adequate	8	13	0	21	
	Poor	0	1	0	1	
	<b>Total</b>	<b>20</b>	<b>19</b>	<b>0</b>	<b>39</b>	
<b>Enough</b>	Good	4	2	0	6	
	Adequate	3	15	0	18	
	<b>Total</b>	<b>7</b>	<b>17</b>	<b>0</b>	<b>24</b>	
<b>Not enough</b>	Good	0	2	0	2	
	Adequate	0	8	3	11	
	Poor	0	1	0	1	
	<b>Total</b>	<b>0</b>	<b>11</b>	<b>3</b>	<b>14</b>	
<b>Total</b>	Good	16	9	0	25	
	Adequate	11	36	3	50	
	Poor	0	2	0	2	
	<b>Total</b>	<b>27</b>	<b>47</b>	<b>3</b>	<b>77</b>	

Information :

P.G : Nutrition Knowledge

The multiple linear regression analysis revealed a significant influence ( $p = 0.005 < 0.05$ ), confirming that both nutritional knowledge and food choice attitudes collectively affect adolescent eating behaviour. This finding emphasizes the necessity of educational and behavioural interventions to promote balanced nutrition among adolescents (Zhu et al., 2023).

Good nutritional knowledge and positive attitudes alone are insufficient without strong personal motivation and supportive environments. Behavioural changes are more likely when knowledge is accompanied by practice and positive reinforcement (Chen et al., 2023). Adolescents who develop sound nutritional practices can help ensure better health outcomes and contribute to a healthier future generation (Kartini & Rachmi, 2022).

#### 4. CONCLUSION

Based on the results of the study, it can be concluded that nutritional knowledge does not have a significant relationship with food choice attitudes among adolescents aged 12–21 years in Kediri Regency, suggesting that knowledge alone is insufficient to shape positive attitudes without broader psychosocial influences. However, a significant relationship was found between nutritional knowledge and eating behaviour, indicating that higher nutritional understanding positively impacts adolescents' dietary practices. Similarly, food choice attitudes were significantly related to eating behaviour, highlighting the important role of attitudes in determining daily food intake. Furthermore, the study demonstrated that nutritional knowledge and food choice attitudes together influence adolescents' eating behaviour, reinforcing the idea that both cognitive and affective factors are essential in forming healthy eating habits. Based on the evaluation of this research, it is recommended that future studies explore eating behaviour in relation to degenerative diseases, obesity, and undernutrition among adolescents. Additionally, further research should examine other influencing factors not covered in this study, such as cultural norms, beliefs, environmental conditions, and social influences, to provide a more comprehensive understanding of adolescent eating behaviour.

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