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Knowledge, attitudes, and practices towards sustainable diets and food choice motives among IPB university students with overweight and obesity: A cross-sectional study

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Abstract

Background: The prevalence of overweight and obesity among university students Indonesia has been rising, with food choices playing a central role in both nutritional and environmental outcomes. However, evidence on knowledge, attitudes, and practices (KAP) toward sustainable diets and their relationship with food choice motives among students with overweight and obesity remains absent in the Indonesian context. This study aimed to determine the association between KAP of sustainable diets and food choice motives among overweight and obese students at IPB University (*Institut Pertanian Bogor*).

Methods: A cross-sectional study was conducted at IPB University Dramaga Campus, Bogor. A total of 97 subjects from undergraduate and postgraduate students from non-nutrition majors were recruited with a purposive sampling technique. Bivariate analysis was performed using the Spearman rank correlation test, and multivariate analysis was performed using binary logistic regression.

Results: Most of the subjects (86.6%) had a poor knowledge. Similarly, attitude and practice were also predominantly poor (76.3% and 92.8%, respectively). Spearman correlation analysis revealed significant associations between knowledge and attitude, knowledge and practice, and attitude and practice ($p < 0.05$). The multivariate analysis demonstrated that a good attitude towards a sustainable diet was significantly associated with food choice motives among IPB University Students with overweight and obesity ($OR = 5.280$; $95\%CI = 1.768-15.769$; $p = 0.003$).

Conclusion: Attitude of sustainable diet was significantly associated with food choice motives among IPB University students with overweight and obesity. University health programs should integrate sustainable diet education targeting attitudinal change, particularly among students with excess body weight.

Keywords: attitude, food choice motives, knowledge, sustainable diet

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Introduction

Overweight and obesity have become major public health issues globally, particularly among young adults, including among university students in Indonesia.¹ Recent data (*Survei Kesehatan Indonesia* or SKI) indicates that the prevalence of adult obesity (aged >18 years old) in Indonesia has increased to approximately 23.4% in 2023, making a persistent upward trajectory over the past decade.² According to the *Riset Kesehatan Dasar* report, the prevalence of overweight and obesity among adults has steadily risen from 10.5% in 2007 to more than 21.8% by 2018, with the most recent SKI data reinforcing this trend.^{3,4} Emerging evidence indicates that university students in Indonesia are also affected by rising rates of overweight and obesity. Many cross-sectional studies reported that the prevalence of overweight and/or obesity among Indonesian students ranged from 20.7% to 73.6%.^{5,6,7,8} Based on previous research from Sakai²³, it was found that around 23% of the Institut Pertanian Bogor (IPB) student population is overweight.

The increasing prevalence of overweight and obesity among both the general adult population and university students reflects broader dynamics of nutrition transition occurring in Indonesia. The nutritional status patterns highlight a significant nutritional transition in Indonesia, where increased consumption of energy-dense and highly processed foods, coupled with sedentary lifestyles, contributes to increasing rates of overweight and obesity.^{2,9,10,11}

Fundamental to addressing these nutritional issues is understanding the role of dietary behaviors and food choices¹². Nutritional knowledge, which reflects an individual's understanding of dietary guidelines, nutritional content, and the health implications of different foods, has been consistently linked to dietary intake.^{13,14,15} However, nutritional knowledge alone may not fully explain dietary choices among young adults. Behavioral and environmental factors, including availability of unhealthy food options, food label literacy, cultural eating norms, and personal attitudes toward foods, also influence food choices.^{16,17}

In addition, food choices also have broader implications for environmental sustainability¹⁸. The concept of sustainable diets introduces nutritional adequacy with ecological impact, emphasizing food consumption patterns that support human health while minimizing environmental degradation, conserving biodiversity, and ensuring equitable access to nutritious foods.¹⁹ A cross-sectional study, exploring sustainable nutrition behaviors among university students in Ankara, Turkey, indicates that food literacy and sustainable eating practices are associated with reduced consumption of ultra-processed foods and more environmentally responsible dietary patterns.²⁰ Growing interest in sustainable diets has highlighted a persistent knowledge gap. Although university students often recognize the importance of healthy and sustainable eating, limited skills, motivation, and supportive environments constrain the translation of knowledge into consistent practice.^{21,22}

Understanding these dynamics is essential not only for improving individual health but also for advancing the United Nations Sustainable Development Goals (SDGs), particularly SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption and Production). Examining how nutrition knowledge, sustainability-related attitudes, and dietary practices interact to shape food choices among overweight or obese university students can inform targeted interventions that address both obesity prevention and sustainable consumption.²³ Therefore, the study aims to determine the correlation



between knowledge level, attitude, and practice of sustainable diet practices, and food choices among overweight/obese IPB students.

Methods

The study used an observational cross-sectional design. The study was conducted from November 2025 until January 2026 at IPB University Dramaga Campus, Bogor. The population was college students who were overweight or obese. The sample criteria were taken using a purposive sampling technique. The inclusion criteria were as follows: (1) Active undergraduate or graduate (master's) students at IPB University from non-nutrition science major; (2) Subjects aged 18-30 years (3) Nutritional status for aged 18 years included over nutrition based on BMI-for age (IMT/U) with Z-scores ranged from $1.0 < Z\text{-Score} \leq 2.0$ (Ministry of Health 2020) or for aged ≥ 19 years based on IMT with classified into overweight (Body Mass Index $23.0\text{--}24.9 \text{ kg/m}^2$) and obese (Body Mass Index $\geq 25.0 \text{ kg/m}^2$)²⁴; (4) Willing to participate in the research; and (5) In good health (both physically and mentally). The exclusion criteria included: (1) Subject not giving the information or data completely; (2) Students with an acute or chronic illness history; and (3) Currently following a specific diet or restriction on specific food types. The study protocol received ethical approval from the Health Research Commission, Faculty of Dental Medicine, Universitas Airlangga, No. 1136/HRECC.FODM/XI/2025 dated Nov 10, 2025. Informed consent was obtained from all subjects prior to participation.

The calculation of the sample based on the estimation proportion formula with precision absolute from Lwanga and Lemeshow²⁵, determines the proportion of food choices. According to a survey from the Iris Global Eating, Drinking & Sustainability Survey²⁶, 58% of the Indonesian population chooses food based on sustainability or environmentally friendly considerations.²⁷ Based on this, the minimum sample obtained was 95 subjects. A total of 97 subjects were initially obtained from this study. The minimum sample of this study is 95 subjects based on the estimation proportion formula with precision absolute from Lwanga and Lemeshow.²⁵ The subjects were selected using purposive sampling with inclusion and exclusion criteria.

The independent variables in this study are the Knowledge Level, Attitude, and Practice (KAP) regarding sustainable diet, while the dependent variable is food choice motives. The data were collected through questionnaires administered during interviews. Individual and socioeconomic characteristics were collected, including age, gender, educational status, residential status, pocket money, place of origin and nutritional status. Information on sustainable diets was obtained to determine the extent to which subjects were exposed to them.

The KAP of a sustainable diet was adopted from the Sustainable Healthy Eating Diet Index (SHED) and Sustainable Diet Questionnaire (SUSDQ) and translated into Indonesian. The SHED questionnaire has previously been validated by Canyolu²⁸, in the adult population in Turkey, and the SUSDQ questionnaire has also been validated by Joshi²⁹, in the adult population in India. The food choice motives of subjects in this study were obtained using the Food Choice Questionnaire (FCQ) from Steptoe³⁰, which was later adapted and modified by Tanziha³¹, to incorporate additional dimensions related to religion and dietary taboos. For the specific food choice question prior to a sustainable diet, the environment dimension was added from the SUSDQ questionnaire item. All subjects were selected using a Likert scale from 1 (not at all important) to 5 (extremely important). The dimension of food choice in this questionnaire consists of 11 dimensions,



such as health, mood, convenience, sensory appeal, natural content, price, environment, familiarity, ethical concern, weight control, and religion and taboo.

Before the research was carried out, we conducted a validity and reliability test of the questionnaire. The trial questionnaire was administered to subjects with the same characteristics as the research subjects. The sample consisted of 30 students from non-nutrition majors at Bogor Ibn Khaldun University. The validity test used the corrected item-total correlation and was run in SPSS Version 26. An item for a questionnaire is considered valid if the r value > 0.30 . Meanwhile, the reliability of the KAP questionnaires on sustainable diet and food choice was assessed using Cronbach's alpha. For internal consistency testing, the item is considered reliable if the Cronbach's alpha coefficient is > 0.70 .³²

The KAP of sustainable diet consists of 60 questions. The knowledge item has been tested for validity (0.377-0.769) and reliability (0.877), and the attitude item was divided into two items. The good attitude was obtained for validity (0.376-0.730) and reliability (0.70). At the same time, the poor attitude was obtained for validity (0.382-0.643). The practice of a sustainable diet has been tested for validity (0.495-0.817) and reliability (0.920). The food choice questionnaire was obtained for validity (0.393-0.809) and reliability (0.966). The result shows that the questionnaires used were valid and reliable. After the pilot test of the questionnaire, the final questionnaire for all variables related to the knowledge, attitude, and practice of the sustainable diet domain comprised 52 questions, with each domain containing 14 questions. The level of knowledge of a sustainable diet is measured using a Likert scale with three options: yes (1), no (2), and do not know (3). Each subject who answered yes was given 1 point if appropriate, and 0 if not. Scores for the knowledge level of sustainable diet were obtained by dividing the number of correct answers by the total number of questions and multiplying by 100. The list of KAP questionnaires on sustainable diets is shown in **Table 1**.

Table 1. Knowledge level, attitude, and practice (KAP) of sustainable diet questions

Number	Topic	Description
1-3	Knowledge, attitude, practice, and concepts of a sustainable diet	Definition, principles, and impacts of sustainable diet (knowledge domain), attitude, and practice of sustainable diet
4-6	The environmental impacts of animal and plant-based consumption	The impact of red-meat consumption and options for choosing plant-based protein options
7-8	Food waste	The utilization of food waste into compost and the impact of food waste on the environment
9-11	Local, organic, and seasonal food	The impact of local and imported food on the environment, and the consumption of seasonal fruits and vegetables
12-14	Nutrition and health dimension	The effect of ultra-processed food consumption, dietary diversity, and intake of sugar, salt, and saturated fat in a sustainable diet



For the attitude and practice of a sustainable diet. Scores were calculated as the number of correct answers divided by the maximum possible score for the number of questions answered, multiplied by 100. The classification of knowledge level was divided into two scales: (1) subjects were considered to have good knowledge if they obtained a score >80% of the total questions. (2) Subjects where poor knowledge is obtained as a score <80% of the total questions.

Data analysis was performed using Statistical Package for the Social Sciences (SPSS) 26.0. The Kolmogorov-Smirnov test was used to assess the normality of the data. Descriptive statistics for categorical variables are presented as frequencies and percentages. In contrast, numerical variables are presented as the means and standard deviations (for normally distributed data) and as medians and interquartile ranges (IQRs) for non-normally distributed data. The KAP data on sustainable diet are not normally distributed, so Spearman's rank test is used. Spearman's correlations were used to examine the relationship between each dimension of food choice motives and the KAP variable for a sustainable diet. All variables are considered significant if the p-value <0.05. A binary logistic regression analysis was used to determine the correlation between knowledge level, attitude, sustainable diet practices, and food choice motives among overweight/obesity IPB students. The dependent variables were food choice motives. According to research from Marty³³, some of the dimensions, such as health, natural content, and ethical concern, represent the "health and sustainability" dimension and have an influence and are proven consistently positively associated with indicators of a sustainable diet. In this study, the food choice motives are combined from several dimensions, such as health, natural content, and ethical concern, into a composite score to represent food choices in relation to a sustainable diet indicator. Moreover, the dependent variables are categorized as 0=not important and 1=important with a cut-off point from the median score.

Results

There were 97 subjects in total, with their characteristics including gender, age, educational level, residential status, pocket money, place of origin, exposure to information, sources of a sustainable diet, and nutritional status. Most subjects were women (53.6%) and men (45%), were between 18 and 21 years of age, while 18% were above 21 years. Regarding the educational levels, 87.6% were undergraduate students and 12.4% were postgraduate students at a university. More than half of the subjects (51.5%) live in boarding houses, while 27.8% live in houses and 20.6% live in dormitories.

The median pocket money for the subject ranges from Rp 1,500,000. Most of the subjects with a percentage of 81.4% come from Java, Bali, and Nusa Tenggara Island. In the population (age <19 years), more than half of the subjects (71.4%) had an overweight nutritional status. In contrast, 28.6% were categorized as obese in the population (age ≥19 years), most subjects (55.3%) were categorized as obese 1. Besides, 63.9% of subjects still answered "No" to receiving information about a sustainable diet, whereas 36.1% answered "Yes" to having been exposed to or received such information. In the major, 3.1% of subjects answered "Yes" to participating in a seminar/workshop related to a sustainable diet, while 96.9% answered "No". Characteristics of subjects are shown in **Table 2**.

**Table 2.** Demographic and socioeconomic characteristics of the subjects

Variable	Frequency (n=97)	%
Gender		
Female	52	53.6
Male	45	46.4
Age range (Years)		
18-21	79	81.4
22-30	18	18.6
Median (min; max)		20 (18;27)
Educational level		
Undergraduate	85	87.6
Postgraduate	12	12.4
Residential status		
Boarding house	50	51.5
House	27	27.8
Dormitory	20	20.6
Pocket money		
Low (Rp <1,000,000)	7	7.2
Moderate (Rp 1,000,000-1,500,000)	37	38.1
High (Rp >1,500,000)	53	54.6
Median (min; max)	Rp >1.500.000 (Rp <1.000.000; Rp >1.500.000)	
Place of origin		
Sumatra	14	14.4
Java. Bali. and Nusa Tenggara	79	81.4
Kalimantan	1	1.0
Sulawesi	1	1.0
Maluku and Papua	2	2.1
BMI-z-score category (<19 years)		
Overweight	15	71.4
Obese	6	28.6
Body mass index (BMI) (≥19 years)		
Overweight (At Risk)	23	30.3
Obese I	42	55.3
Obese II	11	14.5
Received information about a sustainable diet		
Yes	35	36.1
No	62	63.9
Sources of information on a sustainable diet are obtained through:		
Lecturer	2	3.7
Internet	35	64.8
Book	4	7.4
Friends	7	12.9
Parents	4	7.4
Television	2	3.7
Have participated in a seminar/workshop related to a sustainable diet:		
Yes	3	3.1
No	94	96.9



Most of the subjects (68%) knew the definition and concept of a sustainable diet, while just 29.0% gave the responses "not know" and "no" (2.1%). However, more than half (56.7%) of subjects answered "not know" about the impacts of a sustainable diet on greenhouse gas emissions. Also, a few subjects (31%) answered "know" that reducing meat consumption can reduce greenhouse gas emissions. Apart from that, 88.7% of subjects chose "yes" to the statement that tempeh and tofu are local plant-based proteins that are more environmentally friendly. However, in terms of the efficiency of resource or land use between plant-based and animal-based proteins, few subjects answered "yes" to the total amount (46.4%).

On the other hand, based on health considerations, more than 50% of the subjects knew that reducing ultra-processed foods is part of the principles of a sustainable diet, as well as the recommendations to limit sugar, salt, and saturated fat. However, subjects tended to still "not know" (49%) that food diversity is part of a sustainable diet. Regarding food waste reduction, the subjects answered "yes" (62%) that food waste harms the environment. The distribution of the subject's knowledge on sustainable diet is shown in **Figure 1**.

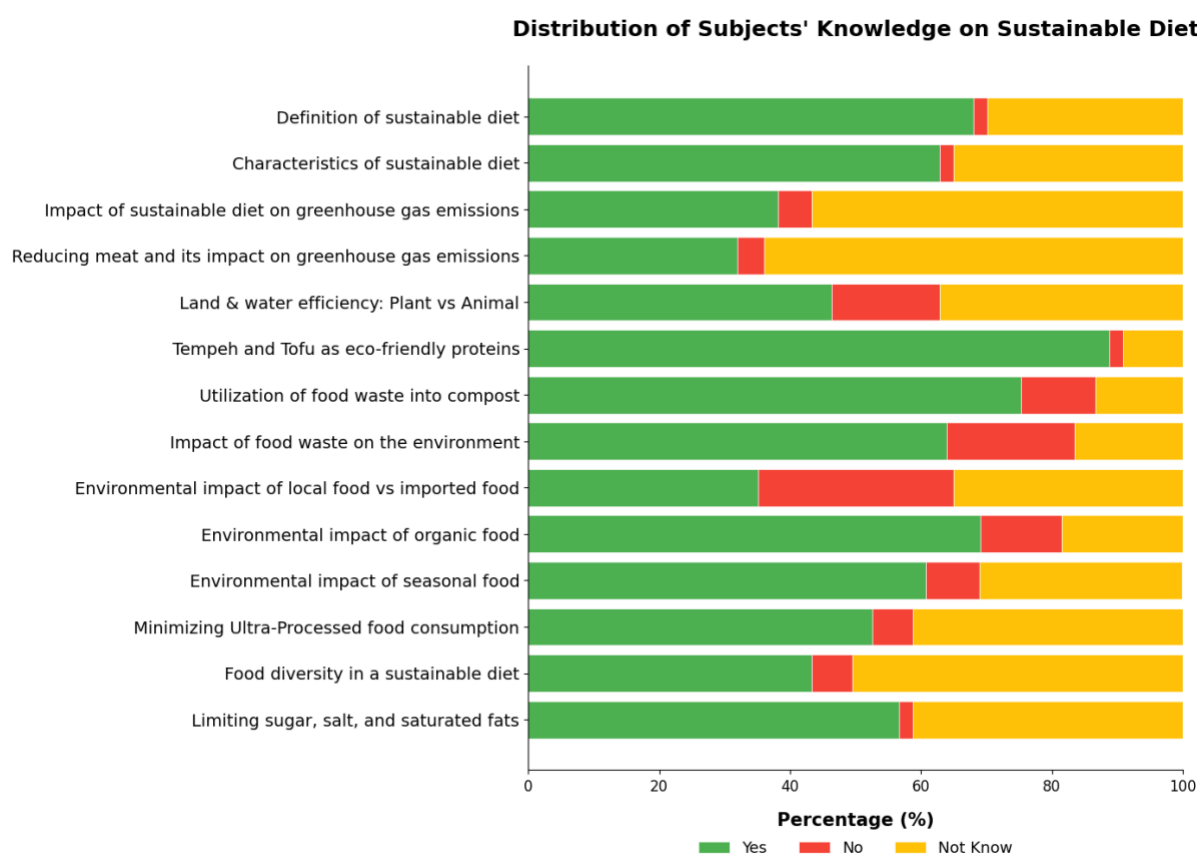


Figure 1. Distribution of subjects' knowledge on sustainable diet



The attitude towards awareness of the impact of food waste on the environment (**Figure 2**) was the most positive reported by subjects in the sustainable diet context. Regarding the attitude of the sustainable diet concept, subjects answered "agree" (53%) that it is important for health and environmental sustainability. More than 50% of subjects answered "neutral" regarding their attitude toward reducing meat consumption to reduce greenhouse gas emissions. 49% of subjects "agree" that tempeh and tofu are the local plant-based protein sources, which are more environmentally friendly. Therefore, inconsistencies were found in attitudes regarding minimizing ultra-processed food consumption. At the same time, the subjects felt "agree" with the total 42% of subjects if it did not correlate with sustainable diet principles.

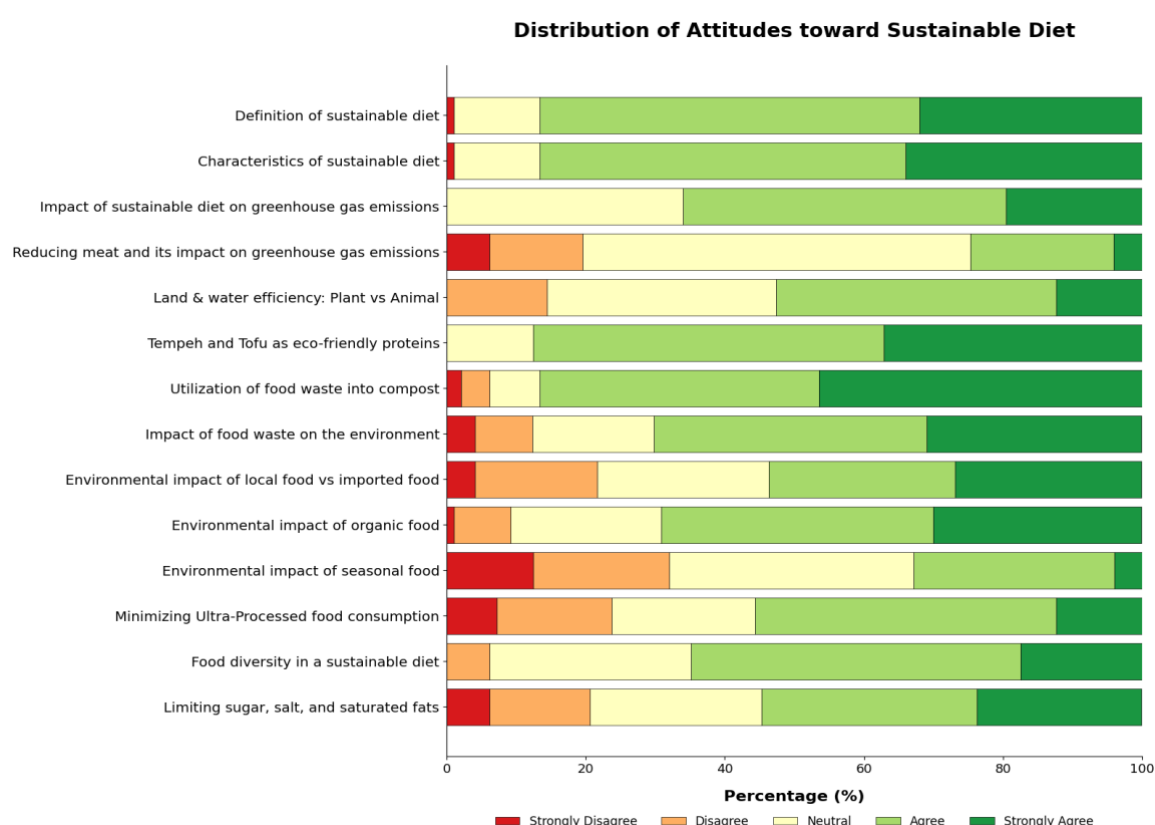


Figure 2. Distribution of attitudes toward a sustainable diet

In terms of practical aspects (**Figure 3**) below, the most practiced were consuming tempeh and tofu as sources of local vegetable protein, as they are more environmentally friendly. This practice is consistent with the subjects' knowledge level and attitude. Unlike the aspects of utilizing food waste in compost, there was a knowledge, attitude, and practice gap. Where, in the practical aspects, subjects (40.2%) reported "never" processing food waste into compost. Regarding local food, most subjects choose "often" as the frequency, with 39% consuming local food rather than imported food because it has a lower negative impact on the environment. Conceptually, the practice of choosing eco-friendly food was characterized by a high frequency of "sometimes" responses, suggesting some obstacles to implementing a sustainable diet.

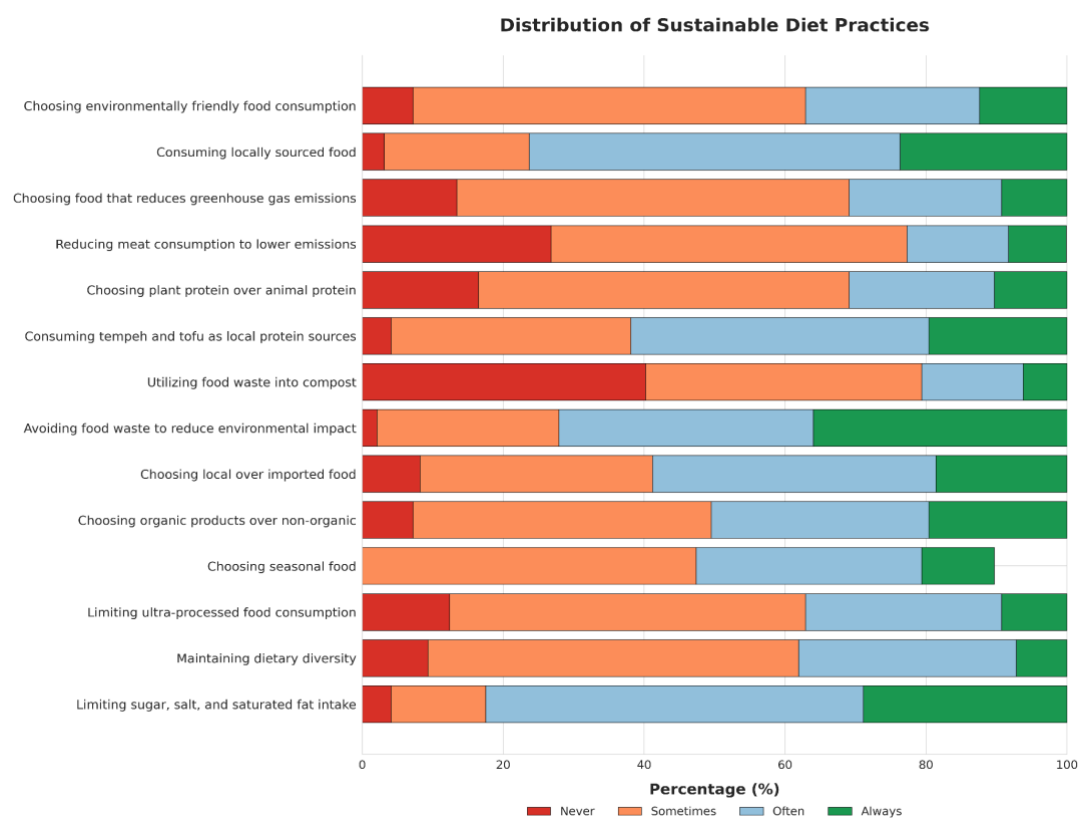


Figure 3. Distribution of sustainable diet practices

As illustrated in **Figure 4**, most of the subjects had poor knowledge (86.6%), whereas only 13.4% were categorized as good. Similarly, attitude (76.3%) and practice (92.8%) of a sustainable diet were most often classified as poor, respectively. Overall, the findings indicate that the knowledge level, attitude, and practice regarding sustainable diet remain low in this population.

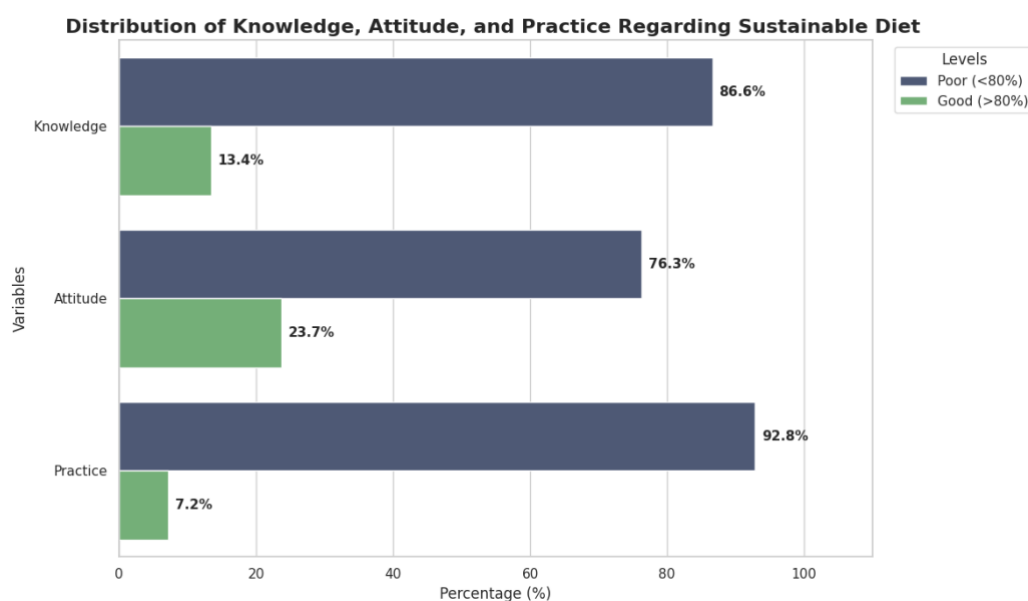


Figure 4. Distribution of knowledge. attitude. and practice regarding a sustainable diet



The mean scores for all subjects are presented in **Table 3**. Based on statistical analysis of food choice motives, the most commonly ranked motives among respondents were health (mean score = 4.53), followed by price (mean score = 4.45), and religion and taboo (mean score = 4.20). In contrast, familiarity (mean score = 3.76), and ethical concern (mean score = 4.01) were the lowest ranked of food choice motives in this population.

Table 3. Analysis for food choice motives

Food Choice Motives	Mean $\pm$ SD	Median (Min–Max)
Health	4.53 $\pm$ 0.45	4.60 (3.00–5.00)
Mood	4.30 $\pm$ 0.67	4.33 (2.00–5.00)
Convenience	4.27 $\pm$ 0.60	4.27 (2.50–5.00)
Sensory appeal	4.13 $\pm$ 0.64	4.00 (2.00–5.00)
Natural content	4.24 $\pm$ 0.67	4.33 (2.00–5.00)
Price	4.45 $\pm$ 0.67	4.67 (1.00–5.00)
Environment	4.16 $\pm$ 0.71	4.00 (2.33–5.00)
Weight control	4.07 $\pm$ 0.72	4.00 (2.00–5.00)
Familiarity	3.76 $\pm$ 0.84	3.67 (1.00–5.00)
Ethical concern	4.01 $\pm$ 0.86	4.00 (1.00–5.00)
Religion and taboo	4.25 $\pm$ 0.60	4.20 (2.60–5.00)

The correlation analysis in **Table 4** demonstrated a significant weak positive correlation between knowledge level and attitudes ($r=0.279$, $p=0.006$) and between knowledge level and practices of sustainable diet ($r=0.241$, $p=0.017$). On the other hand, there was a significant moderate positive correlation between attitudes and practices of sustainable diet ($r=0.407$, $p<0.001$), tested using Spearman's correlation (p -value <0.05). Determining the strength of the correlation, Spearman's rho test results, and the direction of the relationship is based on the cut-off from Schober.³⁴

Table 4. Correlation between the variables of KAP on sustainable diet

Variables	p-values	Correlation coefficient (r)
Knowledge level – attitudes	0.006*	0.279
Knowledge level – practices	0.017*	0.241
Attitudes – practices	<0.001 *	0.407

*p-value < 0.05 (correlation analysis using Spearman's rho test)

The correlation between the KAP of sustainable diet and food choice motives is shown in **Table 5**. Binary logistic regression was used to analyze each independent variable against the dependent variable (bivariate analysis) to determine candidate variables for multivariate analysis. and the selected variables were those with a p-value <0.25 . Variables with a p-value <0.25 in bivariate analysis were included as candidates for multivariable logistic regression, in accordance with the criterion recommended by Hosmer and Lemeshow () to retain variables of potential explanatory relevance prior to model building. This threshold is intentionally more liberal than the conventional $p<0.05$ to minimize the risk of omitting important confounders or effect modifiers at the screening stage. The multivariate analysis demonstrated the adjusted odds ratio (AOR) for gender. The last analysis obtained that the strongest predictor of food choice motives was attitude regarding a sustainable diet. Subjects with a good attitude have a 5.280 times



greater chance of considering food choice motives important compared to subjects with poor attitudes ($p < 0.05$, OR=5.280).

Table 5. Result of the binary logistic regression analysis of KAP associated with food choice motives

Variables	Univariate analysis OR (95% CI)	p-value	Multivariate analysis OR (95% CI)	p-value
Gender				
Female (reference)				
Male	0.580 (0.259 – 1.297)	0.185	0.638 (0.266 – 1.530)	0.314
Age				
Late adolescence (18-21 years) (reference)				
Early adulthood (21-30 years)	0.590 (0.207 – 1.678)	0.322		
Pocket money				
Low (reference)				
Medium	0.882 (0.173 – 4.506)	0.880		
High	0.621 (0.126 – 3.049)	0.557		
Education level				
Undergraduate (reference)				
Postgraduate	1.024 (0.306 – 3.429)	0.970		
Residential status				
Boarding house (reference)				
House	1.371 (0.536 – 3.505)	0.510		
Dormitory	1.909 (0.665 – 5.480)	0.229		
Place of origin				
Outside Java island (reference)				
Java island	1.447 (0.525 – 3.987)	0.474		
Knowledge				
Poor (reference)				
Good	2.596 (0.741 – 9.092)	0.136	1.340 (0.325 – 5.533)	0.685



Variables	Univariate analysis	p-value	Multivariate analysis	p-value
	OR (95% CI)		OR (95% CI)	
Attitude				
Poor (reference)				
Good	5.280 (1.768 – 15.769)	0.003	5.280 (1.768 – 15.769)	0.003*

*p-value < 0.05, significant correlation using binary logistic regression analysis; reference category used as the baseline for comparison in the logistic regression analysis, with OR fixed at 1

Discussion

Based on our study, most of the subjects were not yet aware of a sustainable diet. The percentage of good knowledge scores is similar to attitude and practices, which were categorized as poor. According to knowledge levels, most subjects were unaware of greenhouse gas emissions and of how meat consumption impacts the environment. In line with the study from Keisyafa,³⁵ on students in Universitas Pendidikan Indonesia (UPI), only 41.30% of students believe that sustainable eating patterns can reduce the carbon footprint to support the SDGs 2030. Another study revealed that most subjects (>70%) did not understand ecological and carbon footprints.³⁶

Research on students at universities in Istanbul, Turkey, found that students' practical scores are lower than their knowledge scores.³⁷ This lack of understanding among students stems from the belief that sustainable nutrition or a sustainable diet is expensive, even though students perceive it as healthy.³⁶ There is a strong correlation between knowledge and attitude toward sustainable diets and purchasing power.³⁷

Statistically, there was a significant correlation ($p < 0.05$) between each of the KAP of sustainable diet as an independent variable, and this result is in line with the research hypothesis of this study. Align with previous studies from Marchi,³⁸ who declared that nutritional and environmental attitudes were found to affect nutritional and environmental practices significantly. Other studies reveal a significant correlation between knowledge about sustainable diets and sustainable eating practices, and that motivation serves as a mediating role in this relationship.³⁹ In this study, a moderate but positive correlation was found between attitude and the practice of a sustainable diet ($r = 0.407$, $p < 0.001$). These findings are consistent with previous studies showing that pro-environmental attitudes and behaviors were not strongly associated ($r = 0.29$, $p < 0.001$).⁴⁰

Based on our findings, the main food choice motives of most subjects were health, followed by price, religion and taboo. These findings align with a study from Maulida,⁴¹ in the population of adolescents in East Jakarta, while "health" aspects were the most important when choosing food. In Malaysia, findings from Azmi & Sharkawi,⁴² indicate that "religion" is one of the top three important aspects of food choices. Also, research from Yugharyanti,⁴³ showed that price was second-highest score of food choice motives among the student population of the faculty of public health at Diponegoro University. Meanwhile, familiarity motivates the lowest of food choices in this population. Consistent with research in population at the United Arab Emirates University, familiarity and eco-ethics were ranked as the least important of food choice motives.⁴⁴

The binomial logistic regression models in this study showed that attitude was the most significant predictor of sustainable diet, along with food choice motives, among



overweight/obesity IPB students. No significant correlation was found between socioeconomics and sociodemographics of subjects, knowledge level, and subjects' food choice motives ($p > 0.05$). Based on the systematic review from Glenisson,⁴⁵ attitude was the most frequently appearing as a key element to foster sustainable intention and behaviors. Individual beliefs play a key role in the final choice of food. Behavior-based attitudes are an effective predictor of green behavior.³⁸ Other systematic reviews have shown that in the theory of planned behavior, attitudes had the strongest correlation with intention, with norms and perceived behavioral control affecting dietary patterns.⁴⁶

This study has several limitations. First, the small sample size and underrepresentation of university populations in IPB students, along with the use of purposive sampling criteria, may have led to participation bias. Furthermore, the selection of food choice dimensions for the binary logistic regression was based solely on the literature, as there is no gold standard for categorizing food choice variables in the context of sustainable diet research, especially in Indonesia. The advantage of this study is that it is the first to examine the correlation between KAP of sustainable diet and food choice motives among overweight or obese students in Indonesia. Further research should be conducted not only on students, but also on the young adult population in Indonesia, to ensure the results are representative of the population. Also, the sampling technique used is stratified random sampling in the population of young adults. Furthermore, the food choice motives variable is directly selected based on the sustainable diet context.

Conclusion

The current research emphasizes the correlation between KAP of sustainable diet and food choice motives among overweight/obesity IPB students. These results showed that attitudes towards a sustainable diet were significantly associated with food choice motives. In contrast, no significant association was found between knowledge level and the practice of a sustainable diet and food choice motives. Attitude toward a sustainable diet was the strongest correlate of food choice motives among overweight/obese IPB students. Based on these findings, university health programs should integrate sustainable diet education into campus health promotion initiatives. Such modules ought to address knowledge, attitudes, and behavioral practices, particularly among students with overweight and obesity. Future intervention studies using longitudinal or experimental designs are warranted to evaluate the effectiveness of such programs and to establish the causal directionality of the observed associations.

Conflict of interest

The authors declared no conflict of interest regarding this article.

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Author Contributions

DFS: Conceptualization, methodology, data acquisition, formal analysis, interpretation of results, drafting the manuscript, and final approval of the version to be published; SAM: Supervision, writing, review and editing, critical revision of the manuscript, and final approval of the version to be published; IT: Supervision, writing, review and editing, and final approval of the version to be published.

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