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Eating Habits, Stress Levels, and Food Coping Strategies Associated with the Nutritional Status of Migrant University Students from Kuningan in Jakarta

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ABSTRACT

Nutritional status reflects the body's condition and is influenced by daily dietary habits. Adequate and balanced nutrient intake in accordance with body requirements supports good nutritional status. Several factors, including eating habits, stress levels, and food coping strategies, may affect nutritional outcomes. This study aimed to examine the association of these factors with the nutritional status of migrant university students from Kuningan living in Jakarta. A quantitative cross-sectional design was employed. The study involved 72 migrant university students selected through snowball sampling. Data were collected using structured questionnaires and interviews, including the Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ) to assess eating habits, the Depression Anxiety Stress Scale-21 (DASS-21) to measure stress levels, and the Coping Strategy Index (CSI) to evaluate food coping strategies. Nutritional status was determined using anthropometric measurements of body weight and height to calculate Body Mass Index (BMI). Descriptive analyses were performed to summarize participant characteristics, followed by inferential analysis using the Chi-square test to examine associations between independent variables and nutritional status. Descriptive analysis showed that most students had normal nutritional status, moderate stress levels, and predominantly low food coping strategies. The Chi-square test indicated a significant association between eating habits and undernutrition ($p < 0.001$), while stress levels ($p = 0.317$) and food coping strategies ($p = 0.704$) were not significantly associated with undernutrition. Among migrant university students from Kuningan in Jakarta, eating habits are the primary factor influencing nutritional status. These findings emphasize the need for targeted interventions, such as nutrition education and promotion of balanced meals, to improve dietary behaviors. Universities should support students in adopting healthier eating patterns, especially those living away from home, to maintain optimal nutritional status and enhance academic performance and well-being.

Key Messages:

- Eating habits were significantly associated with the nutritional status of migrant students from Kuningan living in Jakarta.
- Stress levels and food coping strategies were not significant predictors of undernutrition in this study population.
- This study highlights the vulnerability of migrant university students to nutritional problems due to changes in dietary behavior.
- The findings provide evidence to support targeted nutrition education and intervention programs for migrant students.

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GRAPHICAL ABSTRACT

INTRODUCTION

Nutritional status is a condition determined by the balance between nutrient intake and the body's nutritional requirements. Undernutrition occurs when the body does not receive adequate energy and nutrients to meet metabolic needs and daily activities (1). According to the World Health Organization (2), approximately 462 million adults worldwide experience undernutrition, indicating that malnutrition remains a global public health concern. In Indonesia, data from the Basic Health Research (Riskesdas) in 2013 and 2018 showed that the prevalence of underweight among adults aged over 18 years decreased from 11.1% in 2013 to 9.3% in 2018. However, the persistence of undernutrition alongside overweight and obesity reflects the ongoing double burden of malnutrition.

Nutritional status is influenced by multiple factors, including eating habits, food coping strategies, and stress levels. Eating habits directly affect the adequacy of nutrient intake, and balanced dietary patterns are essential to achieving optimal nutritional status (3). Food coping strategies, particularly those related to financial limitations, may reduce energy intake and compromise dietary quality. Prolonged inadequate energy intake may lead to decreased productivity, reduced academic performance, weight loss, and other nutrient deficiencies. Additionally, university students are particularly vulnerable to stress due to academic demands, financial challenges, and adaptation to new environments. Stress may alter eating behaviors, as some individuals cope by increasing or decreasing food intake (4). However, previous findings regarding the relationship between stress and nutritional status remain inconsistent, suggesting the need for further investigation.

In Kuningan Regency, the prevalence of underweight among adults aged over 18 years was reported at 11.24%, higher than the average prevalence in West Java Province (9.25%) (5). Beyond this baseline condition, students from Kuningan represent a relevant study population due to their transition from a semi-rural setting to a highly urbanized environment such as Greater Jakarta. This transition is often accompanied by significant changes in food access, dietary patterns, cost of living, and social support systems. Moreover, many migrant students rely on limited financial resources and must independently manage their food choices for the first time, increasing their susceptibility to unhealthy eating behaviors and ineffective food coping strategies. Cultural dietary habits from their place of origin may also shift due to exposure to urban food environments, further influencing their nutritional intake.

Preliminary observations among migrant students from Kuningan studying in the Greater Jakarta area showed that 15% were underweight, 30% were overweight, and only 55% had normal nutritional status. These

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findings indicate potential nutritional vulnerability among migrant students. Migration to urban areas may result in lifestyle changes, altered dietary patterns, and increased stress exposure, which may affect nutritional outcomes.

Although previous studies have examined determinants of nutritional status among university students, limited research has specifically focused on migrant students from particular regions and analyzed the combined influence of eating habits, food coping strategies, and stress levels on undernutrition. This gap highlights the need for a more context-specific investigation.

Therefore, this study aimed to analyze the characteristics associated with the nutritional status of migrant students from Kuningan living in Jakarta. The findings are expected to contribute to a better understanding of nutritional challenges among migrant university students and to support the development of targeted nutrition interventions.

METHODS

This study employed a quantitative research approach with a cross-sectional design. The study was conducted in Jakarta, Indonesia, from July to August 2024. The study population consisted of migrant university students originating from Kuningan Regency who were studying and residing in Jakarta (hereafter referred to as "students"). The sample size was calculated using the Lemeshow formula, resulting in a total of 72 respondents. The sampling technique applied was snowball sampling. The selection of respondents was not based on specific universities; participants were recruited regardless of their institutional affiliation, as long as they met the inclusion criteria. Inclusion criteria were physically healthy and active students (semester 2–8) from Kuningan who were currently living in Jakarta. Students who were engaged in part-time or full-time work were not included in the study to maintain the homogeneity of the sample in terms of student status and daily activities.

Exclusion criteria included students who were unwilling to participate, those outside semesters 2–8, students living in dormitories, students who had resided in Jakarta for less than one month, and students who were working while studying. The independent variables in this study were stress level, food coping strategy, and eating habits, while the dependent variable was nutritional status.

Data were collected through structured interviews using standardized questionnaires. The instruments included a respondent characteristics questionnaire (name, age, sex, year of study, and university), the Depression Anxiety Stress Scale-21 (DASS-21) to measure stress levels, the Coping Strategy Index (CSI) to assess food coping strategies, and a Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ) to evaluate eating habits. A preliminary study was conducted prior to data collection to ensure the clarity and feasibility of the questionnaires.

Stress levels were measured using the DASS-21 and categorized into five levels based on the total stress score: normal (0–14), mild (15–18), moderate (19–25), severe (26–33), and extremely severe (≥34). For analysis purposes, stress levels were further grouped into two categories: normal and stressed (combining mild to extremely severe).

Food coping strategies were assessed using the Coping Strategy Index (CSI), which measures the frequency and severity of behaviors adopted when facing food shortages or financial constraints. The total CSI score was categorized into two groups based on the median value: low coping strategy (below median) and high coping strategy (above median), where a higher score indicates greater reliance on coping mechanisms that may compromise dietary quality.

Eating habits were assessed using the Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ), which evaluates the frequency and diversity of food consumption. The results were converted into a dietary pattern score and categorized into two groups: good eating habits (if the score met ≥80% of the recommended dietary pattern) and poor eating habits (if <80% of the recommendation).

Nutritional status was determined through anthropometric measurements. Body weight was measured using a calibrated digital weighing scale, and height was measured using a microtoise. Body Mass Index (BMI) was calculated as weight in kilograms divided by height in meters squared (kg/m²). Nutritional status was classified according to adult BMI standards as follows: underweight (<18.5 kg/m²), normal (18.5–24.9 kg/m²), overweight (25.0–26.9 kg/m²), and obese (≥27.0 kg/m²). For bivariate analysis, nutritional status was further grouped into normal and abnormal (underweight and overweight/obese).

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 25.0. Univariate analysis was conducted to describe the distribution of stress levels, food coping strategies, and eating habits. Bivariate analysis was performed using the Chi-square test to determine the association between independent

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variables and nutritional status. The level of significance was set at $p < 0.10$ with a confidence level of 90%.

This study adhered to ethical research principles. All respondents provided informed consent prior to participation, and confidentiality of participant information was ensured throughout the study.

CODE OF HEALTH ETHICS

All procedures in this study were conducted in accordance with ethical research principles involving human participants. Ethical approval was obtained from the Health Research Ethics Committee of Universitas Muhammadiyah Purwokerto (KEPK-UMP), registration number KEPK/UMP/14/VII/2024, approved on July 1, 2024. The research protocol, participant information sheet, and informed consent documents were reviewed and approved by the committee. All participants were informed about the study objectives, procedures, potential benefits, and risks before participation. Written informed consent was obtained from all respondents. Confidentiality and anonymity of participant data were strictly maintained, and participants were informed of their right to withdraw from the study at any time without any consequences..

RESULTS

Based on Table 1, it is explained that the majority of respondents were female (54.2%),19 years old (12.5%), 20 years old (22.2%), 21 years old (30.6%), 22 years old (20.8%), 23 years old (13.9%). Most respondents came from the 2020 and 2022 classes, with 23 respondents (31.9%) each. Most of the respondents came from the State University of Jakarta (51.4%). Most respondents' nutritional status was normal (61.1%), and most respondents' stress levels were normal (44.4%), food coping strategy respondents were mostly low (51.4%), and respondents' habits were mostly good (59.7%).

Table 1. Frequency distribution of respondent characteristics

Variables	Number (n)	Percentage (%)
Gender		
Man	33	45,8
Woman	39	54,2
Age		
19	9	12,5
29	16	22,2
21	22	30,6
22	15	20,8
23	10	13,9
Class Year		
2020	23	31,9
2021	20	27,8
2022	23	31,9
2023	6	8,3
University of Origin		
Trisakti Tourism Institute	2	2,8
Jakarta State Polytechnic of Creative Media	1	1,4
Jakarta 2 Health Polytechnic	3	4,2
UHAMKA	3	4,2
Al-Azhar University Indonesia	3	4,2
Bung Karno University	1	1,4
Esa Unggul University	1	1,4
Mercu Buana University	1	1,4
National University	3	4,2
State University of Jakarta	37	51,4
Pertamina University	1	1,4
Tarumanegara University	2	2,8
Trisakti University	2	2,8

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UPNVJ	12	16,7
Nutritional status		
Underweight	20	27,8
Normal	44	61,1
Overweight	8	11,1
Stress Level		
Normal	32	44,4
Mild	12	16,7
Moderate	12	16,7
Severe	9	12,5
Extremely Severe	7	9,7
Score *Food Coping Strategy*		
Low	37	51,4
Moderate	31	43,1
High	4	5,6
Eating Habits		
Poor	29	40,3
Good	43	59,7

Based on Table 2, it was found that respondents with poor nutritional statusmore often found in respondents who did not experience stress (32.5%) compared to respondents who experienced stress (21.9%).The results of the statistical test showed that the p-value= 0.317 which means there is no relationship between stress levels and malnutrition status. In the proportion of respondents with malnutrition status, it was found that more respondents with food coping strategy which is low (29.7%) compared to respondents with food coping strategy medium-high (25.7%). The results of the statistical test showed that the p-value= 0,704 which mean there is no relationship between food coping strategy towards malnutrition status. In addition, the proportion of respondents with malnutrition status was found in respondents with poor eating habits (65.5%) compared to respondents with good eating habits (2.3%).The results of the statistical test showed that the p-value= 0.00 which means there is a relationship between eating habits and malnutrition status.

Table 2. Relationship between stress levels, food coping strategy, and eating habits with nutritional status students from Kuningan who live in Jakarta

Variables	**Category**	**Nutritional status**				**Total**		***P-value***
		Malnutrition		**Normal-Overweight Nutrition**				
		n	**%**	**n**	**%**	**n**	**%**	
Stress Level	No Stress	13	32,5	27	67,5	40	100	0,317
	Stres	7	21,9	25	78,1	32	100	
Food Coping Strategy	Low	11	29,7	26	70,3	37	100	0,704
	Medium-High	9	25,7	26	74,3	35	100	
Eating Habits	Not Good	19	65,5	10	34,5	29	100	0,00
	Good	1	2,3	42	97,7	43	100	

DISCUSSION

Relationship Between Stress Levels and Malnutrition

Stress can be defined as a state of mental or emotional tension or strain caused by internal or external demands or stressors that individuals perceive as challenging or exceeding their coping resources. (6). The results of the bivariate analysis using the chi-square test showed a *p*-value = 0.317 (p>0.05) indicates that there is no relationship between stress levels and malnutrition status in students, according to the researcher's assumption that generally individual responses to stress vary greatly in stress coping strategies, for example students who use physical activity or social support as a coping mechanism can manage stress well without

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experiencing changes in eating patterns on nutritional status. In addition, the stress experienced by students is often short-term, such as stress before exams or big assignments. This type of stress may not last long enough to significantly affect nutritional status or body weight.

This result is in line with Nurkopipah's research (7), which found that the analysis of the relationship between stress levels and BMI produced a p-value = 0.131, indicating no significant relationship between stress levels and BMI. Additionally, evidence from observational studies among university students has similarly reported no significant association between stress and body mass index or weight status, with multiple cross-sectional studies identified in a systematic review showing nonsignificant results in this relationship among enrolled college and university populations. Stress often causes a person to neglect basic needs such as eating, maintaining hygiene, and resting. Consequently, there is no relationship between stress and BMI. Furthermore, food choices during times of stress can also impact nutritional status bidirectionally. Certain individuals have a tendency to eat more, while others have a tendency to eat less (8). Food consumption choices can be influenced by stress conditions, thus impacting nutritional status. In the mild-moderate stress category, stress can affect the frequency of meals and the types of foods chosen, such as reducing the intake of balanced, nutritious foods. While in severe-extreme stress, it can cause emotional eating patterns, such as overeating (foods high in sugar and fat) or conversely, loss of appetite (9).

Correlation of Food Coping Strategy with Malnutrition

Food coping strategy is an effort to overcome food insecurity (10). Food access ensures that every household and individual has sufficient resources to meet their food needs. If access to food decreases, households can implement food coping strategy to fulfill his needs (11). This coping behavior depends on the available resources. Coping strategy can be done in two ways, namely food-based (for example, buying cheaper food) and non-food-based (for example, looking for more money or selling assets).

The results of the bivariate analysis using the Chi-square test p-value 0.704 shows that there is no relationship between food coping strategy with the nutritional status of students. According to the researcher's assumption, not all strategies food coping focuses on efforts to improve nutritional intake. Some coping strategies, such as reducing portion sizes or choosing inexpensive foods with low nutritional value, can negatively impact nutritional status, even though they help individuals survive situations of food insecurity. In other words, the effectiveness of coping strategies varies, and not all approaches support the improvement or maintenance of nutritional status. Furthermore, in situations of food insecurity, coping strategies often focus more on short-term survival, such as meeting basic energy needs, than on increasing high-quality nutritional intake. Individuals may choose foods that are high in calories but low in nutritional value to survive, which does not contribute to improving nutritional status. Although food coping strategyhelping to address food insecurity, a person's nutritional status is greatly influenced by larger external factors.

This research aligns with research (12) on how household coping strategies in situations of food insecurity do not always correlate directly with nutritional status. Furthermore, (13) also stated that while strategies to address food insecurity help maintain access to food, they do not always contribute to improved nutritional status due to other factors such as the quality of available food.

The results of the frequency distribution of respondents' answers showed that the most common behavior was buying ready-to-eat or instant food, reported by 92.9% of respondents. This was followed by reducing the habit of buying snacks (71.9%) and choosing cheaper or less preferred foods (67.8%). Conversely, behaviors that were rarely practiced included buying food on credit at a shop (1%) and considering dropping out of college (0%).

Relationship between Eating Habits and Malnutrition

Eating habits refer to changes in a person's lifestyle that can lead to changes in their eating habits. Poor eating habits can affect a person's nutritional status, such as consuming more calories than they expend (14). The results of this study obtained eating habits seen from 3 components (type, frequency, and quantity). The highest prevalence was found in respondents with good eating habits as much as 64.6%, said to be good because they meet the 3 components (type, frequency, and quantity). Meanwhile, respondents with poor eating habits as much as 35.4%, eating habits were classified as 'less good' when respondents' diets did not meet the three essential components of type, frequency, and quantity, indicating suboptimal adherence to recommended dietary patterns.

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Bivariate analysis was conducted using the Chi-square test to examine the association between the independent and dependent variables. The analysis yielded a p-value of 0.00 (p-value<0.05), meaning that there is a significant relationship between eating habits and nutritional status in students from Kuningan in Jakarta. This finding aligns with evidence that eating habits play a significant role in shaping nutritional outcomes among university students. Unhealthy dietary patterns, characterized by poor food choices and irregular consumption, have been linked to suboptimal nutritional status and increased metabolic risk in similar student populations (15). Poor diets, such as insufficient fruit and vegetable consumption, coupled with stress and social influences, can lead to overnutrition or obesity. Conversely, adequate dietary intake that meets recommended nutritional requirements plays a crucial role in maintaining optimal nutritional status among students. When students consume a balanced and nutritious diet, they can achieve and maintain optimal nutritional levels, which ultimately supports physical and mental health and enhances academic performance.

This study's findings align with previous research demonstrating that eating habits are significantly associated with nutritional status. For example, (16) reported a significant relationship between eating habits and nutritional status ($p = 0.001$), highlighting that both nutrient intake and the body's ability to metabolize food play critical roles in determining nutritional outcomes.

Based on the Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ) data collected in this study, respondents frequently consumed foods high in energy, fat, and sugar, while the consumption of fruits and vegetables was comparatively low. These dietary patterns are consistent with the findings of (17), who also observed that university students tend to prefer high-energy, high-fat, and high-salt foods, with limited intake of micronutrient-rich foods such as fruits and vegetables. Such eating behaviours have been linked to suboptimal nutritional status among young adult populations (18).

In the carbohydrate category, rice was the most commonly consumed staple food, which is expected given its cultural prominence as a dietary staple in Indonesia. In terms of protein sources, respondents most frequently consumed chicken and eggs, likely because these foods are inexpensive and widely available. Plant-based proteins such as tofu and tempeh were also commonly eaten. Among vegetables, chayote, bean sprouts, and mustard greens were consumed more often than other varieties, probably due to their availability at campus food vendors and local stalls.

Fruit consumption patterns revealed that melon, avocado, orange, and papaya were among the fruits most frequently eaten, often in the form of juices or fruit salads. However, the overall frequency of fruit consumption remained low compared with energy-dense foods. This pattern is supported by recent studies showing that university students typically underconsume fruits and vegetables, despite their known nutritional benefits (19).

Processed and convenience foods such as nuggets, fried chicken, and instant noodles were also widely consumed. These foods are often chosen because they are affordable, convenient, and require minimal preparation time. Snacks such as *bakwan* (vegetable fritters) and iced tea were also popular, though these items are frequently high in fat, sugar, or calories. Such reliance on processed and convenience foods may increase the risk of poor dietary quality, as these products are typically high in saturated fat, sodium, and sugar but low in fiber and essential micronutrients (20).

Overall, the dietary patterns observed in this study characterized by high consumption of energy-dense processed foods and low intake of fruits and vegetables may contribute to imbalanced nutritional status among university students. These findings are consistent with recent literature indicating that unhealthy eating habits among young adult populations are associated with increased risk of both undernutrition and overnutrition (21).

CONCLUSION

This study demonstrated that eating habits are significantly associated with undernutrition among migrant students from Kuningan residing in Jakarta. Students with poor dietary patterns were more likely to experience undernutrition, whereas stress levels and food coping strategies showed no significant association with nutritional status. These findings suggest that daily dietary behavior is a more dominant determinant of nutritional status than psychological or coping factors in this population.

Based on these results, enhancing eating habits is crucial for maintaining optimal nutritional status, supporting academic performance, and promoting overall well-being. Students are encouraged to consume a balanced diet, increase fruit and vegetable intake, and reduce the consumption of fast food and low-nutrient snacks. Universities and related institutions should consider implementing nutrition education programs and

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providing accessible healthy food options on campus to support students living independently.

For future research, it is recommended to: (1) use larger and more diverse samples, (2) apply longitudinal designs to clarify causal relationships between dietary habits, stress, coping strategies, and nutritional status, and (3) examine additional factors such as physical activity, socioeconomic status, and food accessibility to obtain a more comprehensive understanding of student nutritional health.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

1. Par'i HM, Wiyono S, Harjatmo TP. *Penilaian Status Gizi*. Jakarta: Pusat Pendidikan Sumber Daya Manusia Kesehatan, Kementerian Kesehatan Republik Indonesia; 2017
2. World Health Organization. *Malnutrition*. Geneva: World Health Organization; 2019.
3. Kementerian Kesehatan Republik Indonesia. *Pedoman Gizi Seimbang*. Jakarta: Kementerian Kesehatan Republik Indonesia; 2014.
4. Asmita M. Hubungan stres, pola makan, dan aktivitas fisik dengan status gizi mahasiswa. *Nutrizione: Nutrition Research and Development Journal*. 2021;2(1):1–10.
5. Kementerian Kesehatan Republik Indonesia. *Pedoman gizi seimbang: Peraturan Menteri Kesehatan Republik Indonesia Nomor 41 tentang Pedoman Gizi Seimbang*. Jakarta: Kementerian Kesehatan Republik Indonesia; 2014.
6. World Health Organization. *Stress*. Geneva: World Health Organization; 2026.
7. Nurkhopipah A, Probandari AN, Anantanyu S. Kebiasaan makan, aktivitas fisik dan indeks massa tubuh mahasiswa S-1 Universitas Sebelas Maret. *Indonesian Journal of Human Nutrition*. 2017;4:117–124.
8. Manginte AB. Hubungan antara stres dengan status gizi mahasiswa program S1 keperawatan semester VIII STIKes Tana Toraja tahun 2015. *Jurnal Agrosaint*. 2015;6(3):182–192.
9. Sukianto RE, Marjan AQ, Fauziyah AQ. Hubungan tingkat stres, emotional eating, aktivitas fisik, dan persen lemak tubuh dengan status gizi pegawai Universitas Pembangunan Nasional Jakarta. *Jurnal Ilmu Gizi Indonesia*. 2019;3(2):113–122.
10. Yusuf M. Food coping strategies: upaya mengatasi kerawanan pangan. *Jurnal Pangan dan Gizi*. 2018;10(1):45–53.
11. Ashari CR. Studi analisis ketahanan pangan rumah tangga miskin perkotaan dan perdesaan di Sulawesi Selatan [master's thesis]. Bogor: IPB University; 2017.
12. Maxwell D, Caldwell R. *The coping strategy index: field methods manual*. 2nd ed. USA: Cooperative for Assistance and Relief Everywhere (CARE); 2008.
13. Seligman HK, Laraia BA, Kushel MB. Food insecurity is associated with chronic disease among low-income NHANES participants. J Nutr. 2010;140(2):304–10.
14. Putra A. Pengaruh kebiasaan makan terhadap status gizi pada mahasiswa. *Jurnal Gizi dan Dietetik Indonesia*. 2017;2(1):12–22.
15. Li Y, et al. Dietary patterns and nutritional status among university students: a systematic review. *Nutrients*. 2020;12(5):1465.
16. Pantaleon J. Hubungan kebiasaan makan dengan status gizi pada mahasiswa. *Jurnal Gizi dan Kesehatan*. 2019;15(1):50–58.
17. Muclisa. Hubungan asupan zat gizi dengan status gizi pada remaja putri di Fakultas Kesehatan Masyarakat Universitas Hasanuddin Makassar tahun 2013 [skripsi]. Makassar: Universitas Hasanuddin; 2013.

https://doi.org/10.56303/jian.v1i1.1306

18. Tom G, Smith J, Lee A. The impact of stress on eating behavior: a review of the literature. *Journal of Nutrition and Behavior*. 2014;9(4):321–328.
19. Sprake EF, Russell JM, Cecil JE, Cooper RJ, Grabowski P, Pourshahidi LK, et al. Dietary patterns of university students: a systematic review. *Nutrients*. 2018;10(12):1877.
20. Pagliai G, Dinu M, Madarena MP, Bonaccio M, Iacoviello L, Sofi F. Consumption of ultra-processed foods and health status: a systematic review. *Br J Nutr*. 2021;125(3):308–318.
21. Deliens T, Clarys P, De Bourdeaudhuij I, Deforche B. Determinants of eating behaviour in university students: a qualitative study. *BMC Public Health*. 2014;14:53.

https://doi.org/10.56303/jian.v1i1.1306