Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

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ARTICLES	ABSTRACT
	Adolescent girls are vulnerable to body image concerns and unhealthy eating patterns due to social pressures, which may affect their nutritional status. This study aimed to analyze the relationship between body image, eating patterns, and nutritional status among adolescent girls at SMP Negeri 38 Surabaya. An analytical observational study with a cross-sectional design was conducted involving 67 female students from grades VII–VIII, selected using a simple random sampling technique. Data on body image were collected through a questionnaire, eating patterns were assessed using a Semi Quantitative Food Frequency Questionnaire (SQ-FFQ), and nutritional status was determined by anthropometric measurements based on BMI-for-age. Statistical analysis was performed using the chi-square test at a 95% confidence level. The results showed that 50.7% of respondents had a negative body image, 64.2% had unhealthy eating patterns, and 49.3% experienced nutritional problems (49.3% underweight, 29.9% normal, and 20.9% overweight). Statistical tests indicated significant associations between body image and nutritional status (p=0.028) as well as between eating patterns and nutritional status (p=0.012). In conclusion, body image and eating patterns are significantly related to nutritional status, with negative body perception and poor eating habits increasing the risk of malnutrition. The limitation of this study is that it did not include other influential factors such as physical activity and social media exposure, so the results should be interpreted with caution.

Key Messages:
- Negative body image and unhealthy eating patterns are significantly associated with malnutrition risk among adolescent girls.
- Nearly half of the respondents had abnormal nutritional status, highlighting the need for routine nutrition monitoring in schools.
- School-based nutrition education is essential to promote healthy eating behaviors from an early age.
- Body image counseling can help adolescent girls improve self-acceptance and prevent risky eating behaviors.
- School health programs should integrate both nutritional and psychosocial interventions to reduce nutritional problems and enhance adolescent well-being.

INTRODUCTION

Adolescence is a very important phase of development, characterized by rapid physical, psychological, and social changes that affect health behaviors and nutritional needs (1–3). These changes often mark the beginning of adolescents' awareness of their body image. Body image refers to how a person perceives and evaluates the shape and size of their own body (4). Unfortunately, in today's modern era, pressures from social media, unrealistic beauty standards, and environmental influences may lead adolescents to develop negative perceptions of their bodies. Young females, in particular, are more vulnerable to experiencing body dissatisfaction, which in turn can influence their eating behaviors (5). Such dissatisfaction often drives them to engage in extreme dieting, drastically reduce food intake, and may even lead to eating disorders such as anorexia (6). These imbalanced eating patterns have a significant impact on adolescents' nutritional status, affecting not only their physical health but also their mental and social well-being (7).

The issue of body image and improper eating patterns among adolescents has become an increasingly concerning phenomenon, including in Indonesia. Data from the 2023 Indonesia Health Survey (SKI) showed that in East Java Province, the prevalence of adolescents with very thin nutritional status reached 3%, thin 6.7%, overweight 13.8%, and obesity 9.7%. These figures indicate that nearly one-third of adolescents have abnormal nutritional status, whether underweight or overweight. This condition reflects an imbalance in eating patterns and lifestyle, one of which is influenced by body image. At SMP Negeri 38 Surabaya, preliminary studies revealed that out of 15 observed female students, 6 students (40%) had a negative body image and 11 students (73.3%) experienced nutritional problems, particularly undernutrition based on BMI-for-age indicators. Busy academic activities from morning to afternoon, including extracurricular programs, may also contribute to irregular eating patterns. Eating patterns that do not meet the requirements in terms of quantity, type, and frequency of food intake pose serious risks of nutritional problems if left unaddressed (4,8).

Based on these issues, it is important to conduct research aimed at identifying the relationship between body image and eating patterns with the nutritional status of adolescent girls. This study is expected to provide a more comprehensive understanding of the extent to which body perception influences eating habits and how both affect nutritional status (9). By identifying this relationship, more effective intervention strategies can be developed to encourage adolescents to foster a positive body image and maintain a balanced diet. This is essential as a promotive and preventive effort to improve the health and well-being of adolescents in school settings, particularly adolescent girls, who are considered a vulnerable group in terms of body image and nutritional status (10).

METHODS

This research was carried out at SMP Negeri 38 Surabaya using observational analytical methods and cross-sectional design from January to June 2025. The study population was all students in grades VII–VIII aged 13–15 years, with a sample of 67 students who were included through simple random sampling techniques (11). The research instruments included: (1) body image questionnaires to assess adolescents' body perceptions and proven to be psychometrically valid; (2) diet measured using the Semi Quantitative Food Frequency Questionnaire (SQ-FFQ) which has previously been used and validated in the adolescent population in Indonesia; and (3) anthropometric measurements in the form of weight and height carried out with standard procedures to determine nutritional status based on the Body Mass Index by Age (BMI/U).

Data were analyzed using SPSS software, with univariate analysis to describe respondent characteristics and variable distribution, and bivariate analysis using chi-square test with a 95% confidence level and p< significance of 0.05 to determine the relationship between body image, diet, and nutritional status (12). This research has obtained official permission from the school, while all participants are given an explanation of the purpose of the research and express their willingness through written consent (informed consent). The identity of the respondents was kept confidential by the use of anonymous codes on the questionnaire, and the data were only used for research purposes. This study did not undergo formal ethics committee review due to its minimal-risk design, but all ethical principles were strictly observed.

RESULTS

Table 1. Frequency Distribution of Respondents on Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

Age	n	%
13	40	59,7
14	21	31,3
15	6	9,0
Total	**67**	**100**

Source: Primary Data 2025

The frequency distribution of respondents based on the age of adolescent girls at SMP Negeri 38 Surabaya can be seen in Table 1. The distribution shows that 40 respondents (59.7%) were 13 years old, 21 respondents (31.3%) were 14 years old, and 6 respondents (9.0%) were 15 years old.

Table 2. Frequency Distribution of Respondents' Body Image in the Study of Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

Body Image	n	%
Positive	33	49,3
Negative	34	50,7
Total	**67**	**100**

Source: Primary Data 2025

The frequency distribution of respondents based on body image among adolescent girls at SMP Negeri 38 Surabaya can be seen in Table 2. The results show that the majority of respondents had a negative body image perception, with 34 students (50.7%), while the remaining 33 students (49.3%) had a positive body image perception.

Table 3. Frequency Distribution of Respondents' Eating Patterns in the Study of Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

Eating Pattern	n	%
Good eating pattern	24	35,8
Poor eating pattern	43	64,2
Total	**67**	**100**

Source: Primary Data 2025

The frequency distribution of respondents based on eating patterns among adolescent girls at SMP Negeri 38 Surabaya can be seen in Table 3. The results show that the majority of respondents had poor eating patterns, with 43 students (64.2%), while 24 students (35.8%) had good eating patterns.

Table 4. Frequency Distribution of Respondents' Types of Food Consumption in the Study of Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

Type of Food	n	%
Poor type of food consumption	28	41,8
Good type of food consumption	32	47,8
Excessive type of food consumption	7	10,4
Total	**67**	**100%**

Source: Primary Data 2025

The frequency distribution of respondents based on types of food consumption among adolescent girls at SMP Negeri 38 Surabaya can be seen in Table 4. The results show that 28 students (41.8%) had poor types of food consumption, 32 students (47.8%) had good types of food consumption, and 7 students (10.4%) had excessive types of food consumption.

Table 5. Frequency Distribution of Respondents' Energy Intake in the Study of Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

Intake Energy	n	%
Severe deficit	2	3
Moderate deficit	11	16,4
Mild deficit	18	26,9
Normal	33	49,3
Excessive	3	4,5
Total	**67**	**100**

Source: Primary Data 2025

The frequency distribution of respondents based on energy intake among adolescent girls at SMP Negeri 38 Surabaya can be seen in Table 5. According to the 2019 Indonesian Recommended Dietary Allowance (AKG), the daily energy requirement for girls aged 13–15 years is 2,050 kcal. However, the average energy intake of students at SMP Negeri 38 Surabaya was only 1,935 kcal, which is considered low. Based on the frequency distribution of energy intake, 33 students (49.3%) had normal energy intake, 18 students (26.9%) had a mild deficit, 11 students (16.4%) had a moderate deficit, 3 students (4.5%) had excessive energy intake, and 2 students (3.0%) had a severe deficit.

Table 6. Frequency Distribution of Respondents' Meal Frequency in the Study of Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

Meal frequency	n	%
Low meal frequency	28	41,8
Normal meal frequency	32	47,8
High meal frequency	7	10,4
Total	**67**	**100**

Source: Primary Data 2025

The frequency distribution of respondents based on meal frequency among adolescent girls at SMP Negeri 38 Surabaya can be seen in Table 6. The results show that 32 students (47.8%) had a normal meal frequency, 28 students (41.8%) had a low meal frequency, and 7 students (10.4%) had a high meal frequency.

Table 7. Frequency Distribution of Respondents' Nutritional Status in the Study of Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

Nutritional Status	n	%
Underweight	33	49,3
Normal	20	29,9
Overweight	14	20,9
Total	**67**	**100**

Source: Primary Data 2025

The frequency distribution of respondents based on nutritional status among adolescent girls at SMP Negeri 38 Surabaya can be seen in Table 7. The results show that 33 students (49.3%) had underweight nutritional status, 20 students (29.9%) had normal nutritional status, and 14 students (20.9%) had overweight nutritional status.

Table 8. Cross Tabulation of Body Image and Nutritional Status of Respondents in the Study of Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

Body Image	Nutritional Status						Total	p-value
	Underweight		Normal		Overweight			
	n	%	n	%	n	%		
Positive	11	33.3	14	42,4	8	24,2	33	0,028
Negative	22	64,7	6	17,6	6	17,6	34	

Source: Primary Data 2025

Based on the cross-tabulation between the variables body image and nutritional status, it was found that 11 students (33.3%) had a positive body image but underweight nutritional status, 14 students (42.4%) had a positive body image and normal nutritional status, and 8 students (24.2%) had a positive body image but were overweight. Among the students with a negative body image, 22 (64.7%) had underweight nutritional status, 6 (17.6%) had normal nutritional status, and 6 (17.6%) were overweight. The p-value obtained from the statistical analysis was 0.028. Since this value is less than 0.05, it indicates a significant relationship between body image and nutritional status among female students at SMPN 38 Surabaya.

Table 9. Cross Tabulation of Eating Patterns and Nutritional Status of Respondents in the Study of Body Image, Eating Patterns, and Nutritional Status of Adolescent Girls at SMP Negeri 38 Surabaya

Body Image	Nutritional Status						Total	p-value
	Underweight		Normal		Overweight			
	n	%	n	%	n	%		
Good	6	25,0	11	45,8	7	29,2	24	0,012
Poor	27	62,8	9	20,9	7	16,3	43	

Source: Primary Data 2025

Based on the cross-tabulation between the variables eating patterns and nutritional status, the results showed that among students with good eating patterns, 6 students (25%) had poor nutritional status, 11 students (45.8%) had normal nutritional status, and 7 students (29.2%) were overweight. Meanwhile, among students with poor eating patterns, 27 students (62.8%) had poor nutritional status, 9 students (20.9%) had normal nutritional status, and 7 students (16.3%) were overweight. The p-value obtained from the statistical analysis was 0.012. Since this value is less than 0.05, it indicates a significant relationship between eating patterns and nutritional status among female students at SMPN 38 Surabaya.

DISCUSSION

Respondent Characteristics

The respondents in this study were female students aged 13–14 years, classified as early adolescents (13). The results showed that out of 67 respondents, the majority were 13 years old with a percentage of 60% (40 students), followed by 14-year-old students with 21 respondents (31%), and the remaining 6 students were 15 years old (9%).

The research site was chosen at SMP Negeri 38 Surabaya based on the researcher's initial observation, which found that several students appeared underweight, suspected to be related to their high physical and academic activities. School activities starting in the morning and continuing with extracurricular programs until the afternoon have the potential to disrupt regular mealtimes and nutritional intake (14). This provides an overview that high academic pressure and daily activities, if not balanced with adequate nutrition, may affect adolescents' nutritional status, both in the form of undernutrition and overnutrition.

Body Image

Body image is an individual's perception of height and body weight, as well as behaviors related to personal evaluation of their appearance. A person's mental picture of their body shape and size is referred to as body image. It includes the understanding and perception of body shape, the factors influencing body perception, and appearance (body image), which is one of the issues faced by adolescents today (14).

Positive body image means appreciating and accepting one's body imperfections and feeling confident. Negative body image is influenced by individual circumstances and leads to a lack of self-confidence. Those with negative body image often engage in various efforts to achieve a slimmer figure without considering an ideal and healthy body image (15). Body image reflects an individual's mental picture of their body size and shape, along with satisfaction or dissatisfaction with their physical appearance. Adolescents with negative body image are more likely to engage in unhealthy eating behaviors, such as strict dieting without considering nutritional needs (15). This may result in nutritional imbalances, including undernutrition due to excessive restriction or overnutrition caused by disordered eating such as binge eating (16). In this study, 50.7% of respondents had a negative body image perception, while 49.3% had a positive perception. This indicates that more than half of the students were dissatisfied with their body shape. Such dissatisfaction was mainly driven by the fear of becoming overweight, as being overweight was perceived as unattractive and not ideal (17). This study showed a significant relationship between body image and nutritional status, with a p-value = 0.028 (<0.05), indicating that adolescents with negative body image tended to have poorer nutritional status.

Eating Pattern

Eating patterns refer to food consumption behaviors, including type, quantity, frequency, and timing of meals consistently practiced by individuals. A balanced eating pattern is an important factor in maintaining nutritional status and overall health (10). In this study, the majority of respondents (64.2%) were categorized as having poor eating patterns, while the remaining (35.8%) had good eating patterns.

The analysis showed that poor eating patterns were generally caused by habits such as skipping breakfast, consuming fast food during school breaks, and inadequate calorie intake compared to daily energy requirements (18). The average energy intake among respondents was 1,935 kcal, which is lower than the recommended 2,050 kcal for females aged 13–15 years (AKG, 2019). Moreover, the types of food consumed were less varied and low in fiber and protein, contributing to a poor-quality diet.

Unbalanced eating patterns negatively affect adolescents' nutritional status. This was reflected in the statistical test results showing a significant relationship between eating patterns and nutritional status (p = 0.012). Respondents with good eating patterns tended to have normal nutritional status, while those with poor eating patterns tended to experience malnutrition, highlighting the strong link between diet and nutritional status.

Poor eating habits among adolescent girls are often rooted in a lack of nutrition education, peer influence, and preferences for unhealthy foods such as calorie-dense, nutrient-poor junk food (19). High academic and extracurricular demands also contribute to skipped meals or reliance on instant foods for convenience. Such imbalances in food intake may lead to nutrient deficiencies, including iron, protein, calcium, and vitamins, which are crucial during growth (20).

Nutritional Status

Nutritional status is a health condition influenced by the balance between nutrient intake and the body's needs. In this study, nearly half of the respondents (49.3%) were classified as undernourished, while the rest were divided between normal and overweight categories. This highlights that almost half of the students suffered from nutritional problems, particularly chronic energy deficiency (CED).

CED among adolescent girls can have long-term effects, not only on current health but also on their future as prospective mothers. Undernourished adolescents are at risk of menstrual disorders, infertility, and giving birth to low birth weight (LBW) babies, one of the causes of stunting (21).

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Conversely, adolescents with overweight or obesity are at higher risk of degenerative diseases such as hypertension, diabetes mellitus, and cardiovascular diseases (22).

Therefore, adolescent nutritional status requires serious attention. Beyond medical and nutritional aspects, psychosocial factors such as body image and eating habits also play significant roles (23). Negative body image may lower motivation to eat healthily, while inappropriate eating patterns worsen nutritional status. Hence, targeted nutrition education and psychosocial approaches are essential to improve adolescent nutritional health holistically (18).

Relationship Between Body Image, Eating Patterns, and Nutritional Status

This study provides evidence of a strong relationship between body image, eating patterns, and adolescents' nutritional status. Negative body image encourages unhealthy eating behaviors, which ultimately lead to malnutrition (23). Conversely, positive body image tends to be associated with balanced eating behaviors and good nutritional status (24). This relationship is bidirectional and mutually influential: nutritional status can affect body image perception, while body image perception influences eating behavior and ultimately nutritional status.

Adolescents with poor eating patterns and negative body image are at higher risk of undernutrition (25). This study also found that among 22 respondents with negative body image, the majority (64.7%) were undernourished. On the other hand, among 14 respondents with positive body image, 42.4% had normal nutritional status. This highlights the importance of self-acceptance and healthy eating in maintaining balanced nutrition. Social media exposure has been shown to be associated with body dissatisfaction and deviant eating behavior in adolescent girls, in line with our findings that negative body image contributes to unhealthy eating patterns and nutritional problems (26).

Limitations

This research has several limitations. First, the design of the cross-section cannot explain the causal relationship. Second, other important variables such as physical activity, menstrual patterns, and social media exposure are not measured, even though they have the potential to affect body image and nutritional status. Third, dietary measurements using SQ-FFQ still depend on the respondents' memory, allowing recall bias to occur. Fourth, the research was conducted in one school with a limited number of samples so that the results could not be generalized widely. Further research is recommended using longitudinal or *mixed-methods* designs, involving more diverse populations, and integrating psychosocial and environmental factors.

CONCLUSION

This study demonstrated that body image and eating patterns were significantly associated with the nutritional status of adolescent girls. More than half of the respondents reported negative body image (50.7%) and the majority had unhealthy eating patterns (64.2%), both of which increased the risk of malnutrition. Chi-square analysis confirmed significant associations between body image and nutritional status (p = 0.028) as well as between eating patterns and nutritional status (p = 0.012). These findings highlight that negative body perception and poor dietary habits are key determinants of both undernutrition and overnutrition among adolescents.

Based on these results, structured school-based interventions are strongly recommended. Programs should include: (1) regular nutrition education to improve adolescents' knowledge of balanced diets and adequate energy intake; (2) psychosocial counseling on body image to promote positive self-perception; and (3) routine monitoring of nutritional status in schools to allow early detection of nutritional problems. Active involvement of teachers, school health staff, and parents is essential to ensure the success of these interventions.

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CONFLICTS OF INTEREST

The authors declare no conflict of interest.

REFERENCES

1. Liu J. Associations between social networks and creative behavior during adolescence: The mediating effect of psychological capital. Think Ski Creat [Internet]. 2023;49. Available from: https://api.elsevier.com/content/article/eid/1-s2.0-S1871187123001360
2. Rim H. Learning disability in adolescence and civic engagement in young adulthood: Uncovering social-psychological mechanisms. Soc Sci Q [Internet]. 2023;104(4):464–77. Available from: https://www.scopus.com/inward/record.uri?partnerID=HzOxMe3b&scp=85151477769&origin=inward
3. Toro J Del. The intergenerational effects of paternal incarceration on children's social and psychological well-being from early childhood to adolescence. Dev Psychopathol [Internet]. 2023;35(2):558–69. Available from: https://www.scopus.com/inward/record.uri?partnerID=HzOxMe3b&scp=85126942473&origin=inward
4. Lathifah NN, Wulansari A, Rahmawati H. Relationship between Diet Quality and Nutritional Status among Adolescents. J Heal Nutr Res. 2024;3(1):1–5.
5. Nimah S. Z & Indrawati. V. Hubungan Body Image Dan Perilaku Makan Dengan Status Gizi Remaja Putri Di SMK Negeri 1 Driyorejo Kabupaten Gresik. J Gizi Univ Negeri Surabaya. 2022;2(2):124–8.
6. Swari AP, Hatijah N. Correlation Level of Energy Consumption Level of Protein and Body Image Prevalency CED in Shafta High School Surabaya. J Nutr. 2023;
7. Valeri LA, Nugroho RF. Nutritional Knowledge, Food Consumption, and Physical Activity in Relation to Nutritional Status among Students in Junior High School Muhammadiyah 9 Surabaya. J Nutr. 2025;
8. Baceviciene M, Jankauskiene R, Balciuniene V. The role of body image, disordered eating and lifestyle on the quality of life in lithuanian university students. Int J Environ Res Public Health. 2020;17(5):1–17.
9. Budiman GA, Halida AN. Faktor-Faktor yang Mempengaruhi Citra Tubuh Wanita Dewasa Awal yang Belum Menikah. Physco Aksara. 2024;2:102–9.
10. Dinata A. Pola Makan Sehat Di Era Digital: Panduan Lengkap Pola Makan Lebih Sehat Dengan Bantuan Teknologi Modern. Arda Publishing House; 2024.
11. Swarjana IK. Populasi Sampel Teknik Sampling & Bias dalam Penelitian. In 2022.
12. Amin NF, Garancang S, Abunawas K. Konsep Umum Populasi Dan Sampel Dalam Penelitian. J PILAR J Kaji Islam Kontemporer. 2023;14(1):15–31.
13. Pratama D, Sari YP. Karakteristik Perkembangan Remaja | Jurnal Edukasimu. Edukasimu.org. 2021;1(3):1–9.
14. Indrasari OR, Sutikno E. Faktor Yang Mempengaruhi Status Gizi Remaja Usia 16-18 Tahun. Indones J Heal. 2020;x(3):128–32.
15. Rengga OL, Soetjiningsih CH. Body Image Ditinjau dari Jenis Kelamin pada Masa Dewasa Awal. Philanthorpy J Psychol. 2022;6(1):1.

16. Wiswamadanti V, Suiraoka P, Mataram KA. Tingkat Konsumsi Zat Gizi Dan Status Gizi Berdasarkan Persepsi Citra Tubuh Siswi Di SMA Negeri 8 Denpasar. J-KESMAS J Kesehat Masy. 2022 Nov;8(2):213.

17. Restia N. Faktor-faktor yang mempengaruhi body image pada pengguna aktif instagram di sma negeri 1 Kutacane. Fak Psikologi, Univ Medan Area. 2020;23–4.

18. Amir ER, Septiyanti, Rahman H. Hubungan Citra Tubuh Dengan Status Gizi Pada Remaja SMAN 4 Maros Kabupaten Maros. Wind Public Heal J. 2023;4(1):162–9.

19. Aulia NR. Peran Pengetahuan Gizi Terhadap Asupan Energi, Status Gizi Dan Sikap Tentang Gizi Remaja. J Ilm Gizi dan Kesehat. 2021;2(02):31–5.

20. Fauzia Nuraina V, Sulistyoningsih H. Hubungan Antara Pengetahuan Gizi, Status Gizi Dan Kepatuhan Konsumsi Tablet Tambah Darah (Ttd) Dengan Kejadian Anemia Pada Remaja Putri Di Smk Al-Ishlah Singaparna Tahun 2023 the Relationship Between Nutritional Knowledge, Nutritional Status, and Adherenc. J Midwifery Public Heal. 2023;5(2):1–18.

21. Natalia S, Sumarmi S, Nadhiroh SR. CAKUPAN ANC DAN CAKUPAN TABLET FE HUBUNGANNYA DENGAN Cakupan ANC dan Cakupan Tablet Fe Hubungan dengan. FK Masy Univ Airlangga. 2016;188-KEPK.

22. Purnama NLA. Body Image, Perilaku Makan Dan Status Gizi Remaja. J Ilm Keperawatan (Scientific J Nursing). 2021 Oct;7(2):351–8.

23. Utami NM, Hidayanti L, Aisyah IS. Tingkat pengetahuan gizi dan citra tubuh dengan status gizi remaja putri. Nutr Sci J. 2023;2(2):20–7.

24. Erin Padilla Siregar, Sri Rezeki, Amelia Erawaty Siregar, Lisdayanti Simanjuntak. The Relationship Between Body Image and Eating Patterns with Nutritional Status in Adolescent Women in Village II, Bakaran Village Stone Batang Kuis District. Int J Public Heal Excell. 2023;3(1):147–53.

25. Merita M, Hamzah N, Djayusmantoko D. Persepsi Citra Tubuh, Kecenderungan Gangguan Makan Dan Status Gizi Pada Remaja Putri Di Kota Jambi. J Nutr Coll. 2020;9(2):81–6.

26. Dopelt K, Houminer-Klepar N. The Impact of Social Media on Disordered Eating: Insights from Israel. Nutrients [Internet]. 2025 Jan 3;17(1):180. Available from: https://www.mdpi.com/2072-6643/17/1/180