Buletin Kedokteran & Kesehatan Prima
Vol.4 No.2 (2025)
DOI: 10.34012/bkkp.v4i2.7757

ORIGINAL ARTICLE

Body image and nutritional status among female students at Universitas Prima Indonesia

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ABSTRACT

Body image is an individual's subjective perception of their body shape and size, which can influence eating behaviour and nutritional status. This study aimed to analyse the relationship between body image and nutritional status among female students at Prima Indonesia University in 2025. A cross-sectional study was conducted with a sample of 69 female students from the 2023 cohort of the Public Health Study Programme, selected via total sampling. Body image data were collected using the Body Shape Questionnaire (BSQ), while nutritional status was assessed via anthropometric measurements of Body Mass Index (BMI). Data analysis employed the Chi-Square test with a significance level of 0.05. A total of 59.4% of respondents had a negative body image and 40.6% a positive body image. The distribution of nutritional status was: normal (62.3%), obese (18.8%), overweight (10.2%), and underweight (8.7%). Statistical analysis indicated a significant relationship between body image and nutritional status (p-value = 0.002). Respondents with a negative body image were more likely to have an abnormal nutritional status (overweight and obese) compared to those with a positive body image. There is a significant relationship between body image and nutritional status among female students. A negative body image is associated with a tendency towards abnormal nutritional status, particularly excess weight.

Keywords: body image, nutritional status, BMI, female students, body image

Introduction

Nutritional status is a health condition influenced by nutrient intake and utilisation, serving as a key indicator of human resource quality.[1] In Indonesia, nutritional issues encompass not only deficiencies but also excesses, which increase the risk of degenerative diseases.[2] Among late-adolescent and early-adult populations, such as female university students, optimal nutritional status is crucial for supporting academic performance, mental health, and overall quality of life.[3] The factors influencing nutritional status are complex, including dietary intake, physical activity, nutritional knowledge, and psychosocial factors such as self-perception of the body, or body image.[4]

Body image is defined as an individual's perception, thoughts, and feelings about their body shape and size.[5] During late adolescence and early adulthood, body image becomes a critical aspect vulnerable to the influence of unrealistic beauty standards promoted by social media and popular culture.[6] Pressure to achieve an ideal body often triggers body dissatisfaction, which in turn can affect eating behaviours, such as restrictive dieting, emotional eating, or eating disorders.[78] Previous research indicates that female adolescents

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with a negative body image are more susceptible to unhealthy eating patterns leading to abnormal nutritional status, whether underweight or overweight.[9]

Globally, the World Health Organization (WHO) reports an increasing prevalence of overweight and obesity in adult populations, including in middle-income countries like Indonesia.[10] Lifestyle changes, consumption of energy-dense foods, and intensive digital media exposure contribute to this phenomenon.[11] In university settings, female students often face academic, social, and life-adjustment pressures that can influence consumption patterns and body perception.[12] A preliminary survey at Prima Indonesia University in 2025 revealed variation in the nutritional status of female students, with some showing a tendency towards overweight. This indicates a need for deeper exploration of psychosocial factors, such as body image, which may play a role.

Based on the above, this study aims to analyse the relationship between body image and nutritional status among female students at Prima Indonesia University in 2025. The findings are expected to provide a foundation for developing holistic health promotion and nutrition education programmes, considering psychological as well as biomedical aspects in efforts to achieve optimal nutritional status among female students.

Method

This study employed an observational analytic design with a cross-sectional approach. It was conducted at Prima Indonesia University, Medan, from August to October 2025. The study population consisted of all 69 active female students from the 2023 cohort of the Public Health Study Programme. Given the limited population size meeting the inclusion criteria, total sampling was used, whereby the entire population served as respondents. Inclusion criteria were: active 2023 cohort female students, willingness to participate via informed consent, and age 18-22 years. Exclusion criteria were students who submitted incomplete questionnaires or were undergoing specific diets or treatments affecting nutritional status.

Data collection involved both primary and secondary data. Primary data were obtained through self-administered questionnaires and direct anthropometric measurements. The body image variable was measured using the validated Body Shape Questionnaire (BSQ), comprising 34 items on a 6-point Likert scale (1=never to 6=always). The total score was categorised as positive body image (score ≤ 110) or negative body image (score > 110).[13] Nutritional status was determined by measuring body weight (kg) using a digital scale and height (cm) using a stadiometer. Body Mass Index (BMI) was calculated using the formula: weight (kg) / height (m^2). Nutritional status categories followed the modified WHO Asia-Pacific standards for the Indonesian population: underweight (BMI < 18.5), normal (BMI 18.5 – 22.9), overweight (BMI 23 – 24.9), and obese (BMI ≥ 25).[14] Secondary data were obtained from literature reviews and institutional documents.

Collected data were processed through editing, coding, data entry, and cleaning stages using SPSS software version 25. Data analysis consisted of univariate analysis to describe respondent characteristics and variable distribution, and bivariate analysis using the Chi-Square test to examine the relationship between body image (independent variable) and nutritional status (dependent variable). The significance level was set at $\alpha = 0.05$. If more than 20% of cells in the contingency table had an expected count < 5, Fisher's Exact Test was used as an alternative.

Results

A total of 69 female students participated in this study. Characteristics of respondents by age group showed that the majority were 20 years old (69.6%), followed by 21 years (14.5%), 19 years (13.0%), and 22 years (2.9%). The distribution of height and weight across age groups varied, with the majority having a height ≥ 156 cm and weight < 58 kg.

Table 1. Frequency distribution of nutritional status and body image of respondents (n=69)

Variable	Frequency (n)	Percentage (%)
Nutritional Status		
Underweight	6	8.7
Normal	43	62.3
Overweight	7	10.2
Obese	13	18.8
Body Image		
Positive	28	40.6
Negative	41	59.4

Univariate analysis of respondents' nutritional status indicated that most female students had a normal nutritional status (62.3%, n=43). However, the proportion experiencing excess weight (overweight and obese) was quite significant at 29.0% (n=20), comprising 18.8% obese (n=13) and 10.2% overweight (n=7). A small proportion of respondents were underweight (8.7%, n=6). For the body image variable, the majority of respondents had a negative body image (59.4%, n=41), while the remainder had a positive body image (40.6%, n=28) (Table 1).

Table 2. Relationship between body image and nutritional status among female students (n=69)

Body Image	Nutritional Status [n (%)]					*p-value*
	Underweight	Normal	Overweight	Obese	Total	
Positive	5 (17.9)	21 (75.0)	0 (0.0)	2 (7.1)	28 (100)	0.002
Negative	1 (2.4)	22 (53.7)	7 (17.1)	11 (26.8)	41 (100)	

Bivariate analysis using the Chi-Square test revealed a significant relationship between body image and nutritional status among the female students (p-value = 0.002) (Table 2). In the positive body image group, the majority (75.0%, n=21) had a normal nutritional status, with a small number being underweight (17.9%, n=5) and obese (7.1%, n=2). No respondents with a positive body image were in the overweight category. Conversely, in the negative body image group, although the majority still had a normal nutritional status (53.7%, n=22), the proportion experiencing overweight (17.1%, n=7) and obesity (26.8%, n=11) was considerably higher compared to the positive body image group. Only 2.4% (n=1) of the negative body image group were underweight.

Discussion

This study found a significant relationship between body image and nutritional status among female students at Prima Indonesia University. This result aligns with research by Fauziah et al. (2021), which reported that female adolescents with a negative body image were at higher risk of abnormal nutritional status, both underweight and overweight.[9] Dissatisfaction with body shape can trigger unhealthy eating behaviours, such as extreme restrictive eating or, conversely, overeating as a form of emotional coping.[15]

The finding that the majority of respondents with a positive body image were in the normal nutritional status category suggests that a healthy body perception and self-acceptance (body acceptance) are associated with more balanced and controlled eating patterns. Individuals satisfied with their bodies tend not to engage in strict dieting or compulsive eating behaviours that risk disrupting nutritional balance.[16] Conversely, negative body image, characterised by dissatisfaction with body shape, excessive anxiety about weight gain, and obsession with physical flaws, can be a trigger for disordered eating patterns.[17] In this study, the tendency towards overweight and obese nutritional status was more frequently found in the negative body image group. This is supported by research by Sari & Agustin (2023), which stated that poor body image is associated with extreme eating behaviours and binge eating leading to weight gain.[18]

The distribution of nutritional status in this study shows that the issue of excess weight (overweight and obesity) is fairly high (29.0%) among female students. This phenomenon reflects the global trend of increasing obesity among young adults, influenced by lifestyle changes, consumption of fast food, and decreased physical activity.[19] In the campus environment, busy academic schedules and stress can encourage the consumption of high-calorie foods as a coping mechanism.[20] Furthermore, constant exposure to social media promoting unrealistic beauty standards can exacerbate body dissatisfaction and drive cycles of yo-yo dieting and emotional eating.[21]

Although the majority of respondents with a negative body image still had a normal nutritional status, a significant proportion shifted towards excess weight. This may indicate that body dissatisfaction does not always manifest as weight loss but can instead cause overeating due to stress, anxiety, or low self-esteem.[22] It is important to note that a normal nutritional status does not automatically reflect a positive body image, as seen in 53.7% of respondents with a negative body image who had a normal BMI. This reinforces the concept that body image is a subjective perception that can be distorted and is not always directly correlated with objective physical condition.[23]

This study has several limitations. The cross-sectional design does not allow for causal inferences. The use of the self-reported BSQ questionnaire carries potential subjectivity bias. The sample limited to one study programme at one university also restricts the generalisability of the findings. Further research employing a longitudinal design, larger and more diverse samples, and in-depth interviews to explore

contextual factors such as social media influence, family support, and academic pressure is highly recommended.

Conclusion

Based on the study results, it can be concluded that there is a significant relationship between body image and nutritional status among female students at Prima Indonesia University in 2025. A negative body image is associated with a tendency towards abnormal nutritional status, particularly overweight and obesity. The majority of female students with a positive body image had a normal nutritional status. These findings underscore the importance of a holistic approach to nutritional health promotion that focuses not only on physical intake but also on mental health and self-perception. It is recommended that educational institutions integrate body positivity education and media literacy into student health programmes, as well as provide easily accessible nutritional and psychological counselling services. For female students, it is important to develop self-awareness, accept body diversity, and implement sustainable healthy living practices. Future researchers are advised to explore other mediating and moderating factors in the relationship between body image and nutritional status.

References

1. Ministry of Health of the Republic of Indonesia. Pedoman gizi seimbang dan status gizi orang dewasa [Guidelines for balanced nutrition and adult nutritional status]. Jakarta: Indonesian Ministry of Health; 2022.
2. World Health Organization. Obesity and overweight [Internet]. 2022 [cited 2025 Oct]. Available from: https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight
3. Charina MS, Sagita S, Koamesah SMJ, Woda RR. Hubungan Pengetahuan Gizi Dan Pola Konsumsi Dengan Status Gizi Pada Mahasiswa Fakultas Kedokteran Universitas Nusa Cendana [The Relationship between Nutritional Knowledge and Consumption Patterns with Nutritional Status in Medical Faculty Students at Nusa Cendana University]. Cendana Medical Journal. 2022;10(1):197–204.
4. Kanah P. Hubungan Pengetahuan Dan Pola Konsumsi Dengan Status Gizi Pada Mahasiswa Kesehatan [The Relationship between Knowledge and Consumption Patterns with Nutritional Status in Health Students]. Medical Technology and Public Health Journal. 2020;4(2):203–11.
5. Cash TF. Body image: A handbook of science, practice, and prevention. 2nd ed. New York: Guilford Press; 2012.
6. Perloff RM. Social Media Effects on Young Women's Body Image Concerns: Theoretical Perspectives and an Agenda for Research. Sex Roles. 2014;71(11–12):363–77.
7. Stice E. Risk and maintenance factors for eating pathology: a meta-analytic review. Psychol Bull. 2002;128(5):825–48.
8. Sutini T. Pengaruh Media Sosial Terhadap Citra Tubuh Pada Remaja Dan Dewasa Awal [The Influence of Social Media on Body Image in Adolescents and Early Adults]. Jurnal Keperawatan Muhammadiyah. 2022;7(4):159–66.
9. Fauziah LF, Ma'arif MZ, Pamungkas FG. Hubungan Citra Tubuh dan Status Gizi Remaja Putri [The Relationship between Body Image and Nutritional Status of Female Adolescents]. Jurnal Maternitas Aisyah (JAMAN AISYAH). 2021;2(1):68–74.
10. Ng M, Fleming T, Robinson M, et al. Global, regional, and national prevalence of overweight and obesity in children and adults during 1980–2013: a systematic analysis for the Global Burden of Disease Study 2013. Lancet. 2014;384(9945):766–81.
11. Rikandi M, Elvisa FY. Hubungan Pola Makan dengan Status Gizi Lebih dalam Wabah Covid-19 [The Relationship between Dietary Patterns and Overweight Status during the Covid-19 Pandemic]. Jurnal Kesehatan Lentera. 2020;3(1):358–64.
12. Gerliandi GB, Maniatunufus, Pratiwi RDN, Agustina HS. Intervensi Non-farmakologis untuk Mengurangi Kecemasan pada Mahasiswa: Sebuah Narrative Review [Non-Pharmacological Interventions to Reduce Anxiety in Students: A Narrative Review]. Jurnal Keperawatan BSI. 2021;9(2):234–45.
13. Cooper PJ, Taylor MJ, Cooper Z, Fairburn CG. The development and validation of the Body Shape Questionnaire. Int J Eat Disord. 1987;6(4):485–94.
14. WHO Expert Consultation. Appropriate body-mass index for Asian populations and its implications for policy and intervention strategies. Lancet. 2004;363(9403):157–63.
15. Neumark-Sztainer D. Preventing obesity and eating disorders in adolescents: what can health care providers do? J Adolesc Health. 2009;44(3):206–13.
16. Tylka TL. Positive psychology perspectives on body image. In: Cash TF, editor. Encyclopedia of Body Image and Human Appearance. Academic Press; 2012. p. 657–63.
17. Ariani NKN, Swedarma KE, Saputra IK. Hubungan Citra Tubuh Dengan Gangguan Perilaku Makan Pada Remaja Putri Pengguna Instagram [The Relationship between Body Image and Eating Behaviour Disorders in Female Adolescent Instagram Users]. Coping: Community of Publishing in Nursing. 2021;9(5):563.
18. Sari RP, Agustin K. Analisis Hubungan Status Gizi Dengan Kejadian Penyakit Infeksi Pada Anak Balita Di Posyandu Wilayah Puskesmas Colomadu I [Analysis of the Relationship between Nutritional Status and the Incidence of Infectious Diseases in Toddlers at Posyandu in the Colomadu I Public Health Centre Area]. Jurnal Ilmu Keperawatan Dan Kebidanan. 2023;14(1):171–8.
19. Popkin BM, Adair LS, Ng SW. Global nutrition transition and the pandemic of obesity in developing countries. Nutr Rev. 2012;70(1):3–21.

20. Puspita AD, Rakhma LL. Hubungan Emotional Eating dengan Status Gizi pada Mahasiswa Universitas Muhammadiyah Surakarta [The Relationship between Emotional Eating and Nutritional Status in Students at Muhammadiyah University of Surakarta]. Ghidza: Jurnal Gizi Dan Kesehatan. 2024;8(2):258–65.
21. Holland G, Tiggemann M. A systematic review of the impact of the use of social networking sites on body image and disordered eating outcomes. Body Image. 2016;17:100–10.
22. Striegel-Moore RH, Bulik CM. Risk factors for eating disorders. Am Psychol. 2007;62(3):181–98.
23. Grogan S. Body Image: Understanding Body Dissatisfaction in Men, Women, and Children. 3rd ed. Routledge; 2016.