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Research Article

Overview of Nutritional Status, Breakfast Habits, and Nutritional Knowledge among University Students

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ABSTRACT

Background: Nutrition-related issues can lead to increased morbidity and mortality, with a rising prevalence of malnutrition among young adults. Breakfast habits and nutrition-related knowledge significantly influence an individual's nutritional status. This research aims to describe breakfast habits, nutritional knowledge, and nutritional status among students of the Faculty of Health Sciences at UIN Syarif Hidayatullah Jakarta from 2020 to 2022.

Method: This was a quantitative study that employed a cross-sectional. The study includes 469 students from the Faculty of Health Sciences at UIN Syarif Hidayatullah Jakarta, selected through stratified random sampling based on the year of admission. Data were analyzed using univariate methods to observe the frequency distribution of nutritional status, breakfast habits, and nutrition knowledge among the students.

Results: The findings indicate that a significant proportion of students have underweight nutritional status (30.3%), engage in irregular breakfast habits (56.7%), and consume breakfast after 9:00 AM (44.8%). Additionally, many students do not include staple foods in their breakfast (45.2%) and lack sufficient nutrition knowledge (43.9%).

Conclusion: The study reveals ongoing nutritional challenges among students, including underweight status and obesity. Corresponding with these issues, some students exhibit irregular breakfast habits and delay breakfast until after 9:00 AM. Furthermore, 45.2% of students omit staple foods from their breakfast, and 43.9% possess inadequate nutrition knowledge. Future research should explore the relationship between breakfast habits, nutrition knowledge, and individual nutritional status to provide more comprehensive insights.

Keywords: Nutritional Status; Breakfast Habits; Nutrition Knowledge; Students

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INTRODUCTION

Nutrition is an essential aspect of life that can influence an individual's health conditions, including during adulthood.[1] The intake of nutrients adults consume is a crucial factor affecting their nutritional status. Consuming nutrients over the requirements can lead to overnutrition, while insufficient nutrient intake can result in undernutrition.[2] Nutritional issues are highly complex and a significant cause of death and diseases worldwide. According to World Health Organization data, 1.9 billion adults are overweight, and 462 million people are underweight.[3] In 2018, the prevalence of obesity in Indonesia increased to 21.8% compared to 2013, while undernutrition (thinness) was 9.3%.[4] Individual nutritional status is influenced by various factors, especially dietary patterns and nutrition-related knowledge. Dietary patterns include habits such as having breakfast.

Previous research on students shows that the habit of skipping breakfast has a significant relationship with the nutritional status of students. Students who skip breakfast can increase the prevalence of nutritional problems by 1.83 times. This study found that the prevalence of students who were not accustomed to breakfast and had nutritional problems was 53.2%.[5] Breakfast plays a crucial role in determining an individual's nutritional status. It is a vital source of the body's nutrients, including proteins, fats, vitamins, and minerals. Individuals who skip breakfast tend to feel hungrier in the afternoon and evening compared to those who have breakfast. This is because skipping breakfast tends to increase energy intake, leading individuals to eat more during the day and night. Fear of weight gain is also a common reason for skipping breakfast. Consistently skipping breakfast reduces nutrient intake, leading to an unbalanced diet.[6]

Nutritional knowledge indirectly influences an individual's nutritional status. This happens because nutritional knowledge provides information for healthy food choices.[7] An individual's nutritional ability affects attitudes and behaviours in food selection, ultimately influencing their nutritional status.[8] This aligns with research on health students in 2020, showing a correlation between nutritional knowledge and an individual's nutritional status. Lower nutritional knowledge is associated with less balanced food selection behaviour.[9] The habits of having breakfast and nutritional knowledge in students are essential factors to consider. Skipping breakfast can lead to increased consumption during subsequent meals, potentially causing fat accumulation and an increased risk of nutritional problems. On the other hand, individuals with good nutritional knowledge are likely to understand proper eating behaviours.[10] Therefore, this research aims to describe breakfast habits, nutritional knowledge, and nutritional status among students of the Faculty of Health Sciences at UIN Syarif Hidayatullah Jakarta from 2020 to 2022 as a case study in higher education.

METHOD

This study was quantitative observational analytical research using a cross-sectional study design. The population consists of students from the Faculty of Health Sciences at UIN Syarif Hidayatullah Jakarta from 2020 to 2022, including three study programs, with 980 students. The sample size was calculated using a formula for testing the difference in proportions, with a significance level of 95% and a test power of 80%, resulting in 469 respondents.

Stratified Random Sampling selected the sample within the three Study Programs of the Faculty of Health Sciences based on the entry year. Stratified Random Sampling was chosen

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due to the population's non-homogeneous and proportionally stratified nature. In the initial stage, a sample framework was created based on attendance data of students from the years 2020 to 2022 in three study programs (public health, pharmacy, and health sciences) at the Faculty of Health Sciences UIN Syarif Hidayatullah Jakarta. Subsequently, proportional calculations were conducted for the sample size from each entry year in the three study programs. The final stage involved selecting samples through simple random sampling from each entry year in these three study programs. The chosen selections must meet the inclusion criteria defined in this research, i.e., active undergraduate students at the Faculty of Health Sciences UIN Syarif Hidayatullah Jakarta.

Data collected in this study include individual characteristics (age, gender, study program, entry year), nutritional status (height and weight), nutritional knowledge, and breakfast habits. Data was collected using a Google Form questionnaire distributed through a WhatsApp group. The dependent variable in this study was nutritional status determined by the Body Mass Index (BMI) anthropometric index. BMI was calculated by comparing weight and height (weight (kg) / height $(m)^2$). Respondents' nutritional status was categorized into four categories: underweight if BMI is <17.00-18.49, normal if BMI is 18.50-25.00, overweight if BMI is 25.10-27.00, and obese if BMI is >27.00.[11]

The independent variables in this study included individual characteristics (age, gender, study program, entry year), nutritional knowledge, and breakfast habits. The nutritional knowledge questionnaire consists of 10 questions, with 1 point for each correct answer. Nutritional knowledge is categorized as good if the score is 7-10 with correct answers, sufficient if the score is 6-7 with correct answers, and inadequate if the score is <6. The breakfast habit variable refers to the routine consumption of a primary meal (such as rice, bread, etc., not snacks) every morning around 06:00 - 09:00 before engaging in activities. Respondents' breakfast habits were categorized as regular if they consume breakfast ≥4 times a week and irregular if they consume breakfast <4 times a week.

Data analysis for this study used the Statistical Package for the Social Sciences (SPSS) software, employing univariate analysis to observe the distribution of independent and dependent variables. The research was conducted from September to December 2023 and obtained ethical approval with Un.01/F.10/KP.01.1/KE.SP/10.08.013/2023 from the Faculty of Health Sciences Ethics Committee UIN Syarif Hidayatullah Jakarta.

RESULTS

In total, 469 respondents participated in this study. The nutritional status of the respondent is presented in Figure 1. Respondents who have a nutritional status of normal (50.10%), thin (30.30%), fat (8.70%) and obese (10.90%). The other characteristic respondent is shoes in Table 1. The largest proportion of age is <20 years (68.0%), while 32.0% is age ≥20 years. Based on gender, the largest proportion is female (88.1%), while 11.9% is male. Meanwhile, based on the year of study, the largest proportion is 2021 (35.8%), while 2020 and 2022 are 29.2% and 35.0%, respectively.

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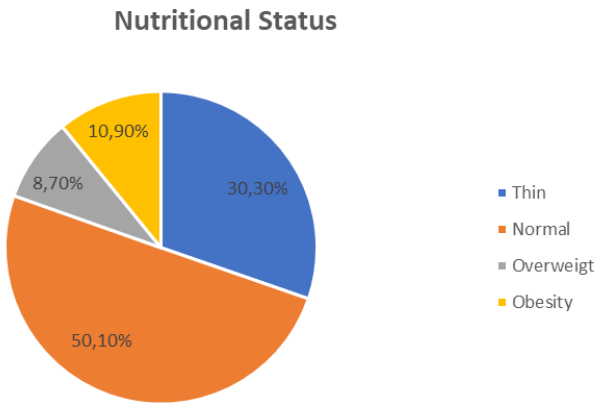

Figure 1. Frequency Distribution of Respondents' Nutritional Status

Table 1. Frequency Distribution of Respondent Characteristics

Variable	n = 469	%
Age (Year)		
< 20	319	68.0
≥ 20	150	32.0
Gender		
Men	56	11.9
Women	413	88.1
Academic Batch		
2020	137	29.2
2021	168	35.8
2022	164	35.0

The frequency results of breakfast habits and nutritional knowledge of respondents in Table 2 show that respondents have irregular breakfast habits (43.3%), have breakfast after 09:00 AM before activities (44.8%), and do not have breakfast with staple foods (45.2%). Additionally, most respondents have insufficient nutritional knowledge (43.9%).

Table 2. Frequency Distribution of Respondent Breakfast Habits and Nutritional Knowledge

Variable	n = 469	%
Breakfast Habits		
Regular	266	56.7
Irregular	203	43.3
Breakfast Time		
< 09.00 AM	259	55.2
≥ 09.00 AM	210	44.8
Breakfast with Staple Foods		
Yes	257	54.8
No	212	45.2
Nutritional Knowledge		
Good	263	56.1
Bad	206	43.9

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DISCUSSION

The research results show that there are (30.3%) of respondents have an underweight nutritional status, and (10.9%) have an obese nutritional status. This indicates that dietary problems among students still exist. Nevertheless, some respondents have normal nutritional status (50.1%). These findings align with research conducted at several institutions, indicating that most students have normal dietary status.[6,12] Nutritional problems occur due to an imbalance between the intake of nutrients and the body's metabolic needs. Nutritional status is the balance between nutrient intake from food and metabolic conditions in the body.[13]

Nutritional status reflects an individual's body condition influenced by food consumption, absorption, and utilization of nutrients. The mismatch between food consumption and body needs can cause nutritional problems, both excess and deficiency.[14] Respondents with underweight dietary status may be due to inadequate eating patterns during breakfast, impacting nutritional adequacy. Long-term breakfast habits play a role in influencing an individual's nutritional status.[15]

This research was conducted at UIN Syarif Hidayatullah Jakarta Faculty of Health Sciences, with samples from the 2020 to 2022 cohorts totalling 469 students. Information about respondent characteristics was obtained based on the data. It was found that most respondents were under 20 years old, accounting for 68%. This age shows that most students fall into the young adult category. In the book Moesijanti Soekarti et al. (2011), balanced nutritional needs are needed in adulthood, especially to maintain health, prevent disease and inhibit the development of degenerative diseases. If nutritional needs are not met, it can affect changes in the body, such as body composition, weight, bone mass, and physical activity.[16] In this study, it was found that poor nutritional status was dominated by women (83.8%) compared to men (16.2%). This result is consistent with another study conducted by Putra et al. (2018), which found that women with poor nutritional status were higher than men, with a proportion of women 88% and men 12%.[6]

The research results show that there are still some respondents with irregular breakfast habits, amounting to (43.3%). Through interviews with respondents who do not have breakfast regularly, it was found that most of them are boarding students. This is supported by other research stating that some students living in boarding houses skip breakfast before morning classes due to laziness and limited time to buy food. Meanwhile, students living with their parents are more likely to have breakfast because meals are prepared by their parents.[6] Another study found that the main reasons for subjects not having breakfast were lack of time, feeling rushed to school, and a tendency to follow a weight-loss diet.[17]

Breakfast is eating and drinking from waking up until 9 AM, aimed at meeting a portion of daily nutritional needs (15-30%) to achieve a healthy, active, intelligent, and productive life.[11] The research results indicate that some respondents have breakfast after 9 AM. This is supported by other studies showing that most Bogor, West Java students have a habit of having breakfast after 9 AM.[12] A good breakfast is considered to be done in the morning, starting from waking up until 9 AM, not close to lunchtime, and done regularly every day before starting other activities.[15,18]

The type of food consumed during breakfast significantly determines the quality of breakfast and the energy derived from it. The research results also show that the majority of respondents

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have breakfast with staple foods (54.8%), and there are (45.2%) of other respondents who have breakfast with alternative foods. Breakfast with staple foods fulfils the minimum nutritional composition needs, as staple foods play a crucial role in a balanced meal, including carbohydrates, vegetables, and protein, meeting the body's needs for vitamins and minerals.[6] However, alternative foods such as bread, tubers, or cereals can also be used for breakfast. Nevertheless, these alternative foods contain more carbohydrates and fewer nutrients.[18]

The selection of food during breakfast is also influenced by nutritional knowledge. Someone with good nutritional knowledge will be selective in choosing the right type of food for daily breakfast, considering the minimal nutrients the body needs. However, the research results find that 43.9% of respondents need more nutritional knowledge. Nutritional knowledge is an individual's knowledge related to nutrition science, such as food sources and nutrient content.[19] Poor nutritional knowledge will affect a person's actions in meeting nutritional needs through food consumption to achieve good nutritional status. Therefore, nutritional knowledge is crucial for students in the late adolescence age group. During this age group, the need for nutrients increases to assist in the growth and development process, accompanied by lifestyle changes that affect eating habits, making them vulnerable to nutritional problems. With good nutritional knowledge, students can pay attention to the quality and quantity of their food.[20]

CONCLUSION

This study found that nutritional problems still exist among students, with underweight nutritional status at (30.3%) and obesity at (10.9%). In line with the identified dietary issues, the research results also revealed that some students have irregular breakfast habits (43.3%) and have breakfast after 09:00 AM (44.8%). Additionally, (45.2%) of students do not have breakfast with staple foods, and (43.9%) have insufficient nutritional knowledge. Efforts must be made to improve students' nutritional status by improving good eating habits and increasing awareness of healthy eating patterns. Students should get used to having breakfast regularly before 09.00 WIB with a menu based on balanced nutrition guidelines or "*isi piringku*". In addition, it is important to implement healthy eating habits that align with balanced nutrition needs. Further research should explore the factors influencing students' breakfast habits and their impact on nutritional status.

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Declarations

Authors' contribution

A.S., D.Y.W., and I.G. collected and analyzed the data sample. All authors, such as A.S., D.Y.W., I.G., and H.N., contributed in designing the study, interpreting results, and writing the final manuscript.

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Conflict of interest

There is no conflict of interest in this research.

REFERENCES

1. Adha CN, Prastia TN, Rachmania W. Gambaran Status Gizi Berdasarkan Lingkar Lengan Atas Dan Indeks Massa Tubuh Pada Mahasiswi Fikes Uika Bogor Tahun 2019. Promotor. 2019;2(5):340–50. https://doi.org/10.32832/pro.v2i5.2523
2. Whitney, E., & Rolfes SR. Understanding nutrition, thirteenth edition (13th ed.). Singapore: Wadsworth and Cengage Learning; 2013.
3. World Health Organization (WHO). Nutrition. 2022 [cited 2023 Nov 20].
4. Kemenkes RI. Laporan Riset Kesehatan Dasar. 2018.
5. Agustian H, Kumala M. Hubungan sarapan dengan status gizi pada mahasiswa Fakultas Kedokteran Universitas Tarumanagara angkatan 2013. Tarumanagara Medical Journal. 2018;1(1):80–8.
6. Putra A, Syafira DN, Maulyda S, Cahyati WH. Kebiasaan Sarapan pada Mahasiswa Aktif. HIGEIA (Journal of Public Health Research and Development). 2018;2(4):577–86. https://doi.org/10.15294/higeia.v2i4.26803
7. Jayanti, Y. D., & Novananda NE. Hubungan pengetahuan tentang gizi seimbang dengan status gizi pada remaja putri kelas XI akuntansi 2 (di SMK PGRI 2 Kota Kediri). Jurnal Kebidanan. 2017;6(2):100–8.
8. Soraya D, Sukandar D, Sinaga T. Hubungan pengetahuan gizi, tingkat kecukupan zat gizi, dan aktivitas fisik dengan status gizi pada guru SMP. Jurnal Gizi Indonesia (The Indonesian Journal of Nutrition). 2017;6(1):29–36. https://doi.org/10.14710/jgi.6.1.29-36
9. Kanah P. Hubungan Pengetahuan Dan Pola Konsumsi Dengan Status Gizi Pada Mahasiswa Kesehatan. Medical Technology and Public Health Journal. 2020;4(2):203–11. https://doi.org/10.33086/mtphj.v4i2.1199
10. Puspitasari DI, Rahmani A. Description of Breakfast Behaviour And Nutritional Status Of Nutrition And Non-Nutrtiton Students At Universitas Muhammadiyah Surakarta. MPPKI (Media Publikasi Promosi Kesehatan Indonesia): The Indonesian Journal of Health Promotion. 2018;1(2):46–51. https://doi.org/10.56338/mppki.v1i2.161
11 Kemenkes RI. Pedoman Gizi Seimbang. 2014.
12. Hisbullah Amrinanto A, Widya Dwinugraha K. Gambaran Kebiasaan Sarapan Dan Status Gizi Pada Mahasiswa Kesehatan. 2022;2(1):15–9.
13. Wiratmini IGAM. Gambaran Status Gizi Berdasarkan Tingkat Pengetahuan Sarapan Dan Konsumsi Sarapan Siswa SMP Negeri 2 Sidemen Kabupaten Karangasem. 2019;9(2):91–8.
14. Anzarkusuma IS, Mulyani EY, Jus'at I, Angkasa D. Nutritional Status Based on Primary School Student's Dietary Intake in Rajeg District Tangerang City. Indonesian Journal of Human Nutrition. 2014;1(2):135–48.
15. Soedibyo S, Gunawan H. Kebiasaan Sarapan di Kalangan Anak Usia Sekolah Dasar di Poliklinik Umum Departemen Ilmu Kesehatan Anak FKUI-RSCM. Sari Pediatri. 2016;11(1):66. http://dx.doi.org/10.14238/sp11.1.2009.66-70
16. Moesijanti S, Sutardjo S, Almatsier S. Gizi Seimbang Dalam Daur Kehidupan. Jakarta: Gramedia Pustaka; 2011

17. Niswah I, Damanik MRM, Ekawidyani KR. Breakfast Habits, Nutritional Status, and Health Related Quality of Life of Adolescents in Bosowa Bina Insani Junior High School Bogor. Jurnal Gizi dan Pangan. 2014;9(10):97–102. https://doi.org/10.25182/jgp.2014.9.2.%25p
18. Karimah I. Kebiasaan Sarapan Dan Prestasi Belajar Siswa Sd Di Kota Bogor Tahun 2013. Media Informasi. 2018;14(2):175–81. https://doi.org/10.37160/bmi.v14i2.209
19. Selaindoong SJ, Amisi MD, Kalesaran AFC. Gambaran Pengetahuan Gizi Mahasiswa Semester Iv Fakultas Kesehatan Masyarakat Universitas Sam Ratulangi Saat Pembatasan Sosial Masa Pandemi Covid-19. Jurnal KESMAS. 2020;9(6):8–16.
20. Pritasari, P., Didit, D., & Nugraheni TL. Gizi Dalam Daur Kehidupan. Jakarta: Kementerian Kesehatan Republik Indonesia; 2017.

10.26555/eshr.v7i1.12716