



Association between body image and skipping meals behavior among premarital women of reproductive age

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ABSTRAK

Latar Belakang: Wanita usia subur (WUS) pranikah perlu memperhatikan kecukupan gizinya, karena sebagai calon ibu status gizi wanita usia subur prakonsepsi akan mempengaruhi tumbuh kembang janin, kesehatan bayi, keselamatan ibu dan bayi selama proses melahirkan. Namun pada masa pranikah ini, perhatian terhadap body image biasanya meningkat, dimana hal ini dapat mempengaruhi perilaku makan seseorang, salah satunya perilaku skipping meals. Perilaku skipping meals berdampak pada kualitas diet yang buruk yang pada akhirnya dapat mempengaruhi status gizinya.

Tujuan: Mengetahui adanya hubungan antara body image dengan perilaku skipping meals pada wanita usia subur pranikah di kabupaten Bantul.

Metode: Penelitian ini merupakan penelitian observasional dengan pendekatan cross-sectional. Penelitian dilakukan pada 132 WUS pranikah di kabupaten Bantul yang mendaftarkan pernikahannya di Kantor Urusan Agama (KUA). Pengukuran body image menggunakan Body Shape Questionnaire-34 (BSQ-34) dan perilaku skipping meals diidentifikasi menggunakan kuesioner. Data dianalisis dengan uji Mann-Whitney dikarenakan data tidak terdistribusi normal.

Hasil: Sejumlah 30.3% responden mempunyai body image negatif. Nilai median perilaku skipping meals responden adalah 2 kali/minggu. Responden yang mempunyai body image negatif lebih sering melakukan skipping meals yaitu 4 kali/minggu dibandingkan dengan responden yang mempunyai body image positif yaitu 2 kali/minggu. Hasil uji bivariat menunjukkan adanya hubungan yang signifikan antara body image dengan perilaku skipping meals $p < 0,001$.

Kesimpulan: Terdapat hubungan yang signifikan antara body image dengan perilaku skipping meals. Disarankan bagi Kantor Urusan Agama (KUA) untuk memberikan materi



terkait body image dan pentingnya makan secara teratur guna mencegah masalah gizi pada masa kehamilan pada kegiatan bimbingan perkawinan.

KATA KUNCI: Wanita usia subur pranikah; *body image*; *skipping meals behavior*

ABSTRACT

Background: Premarital women of reproductive age need to care about their nutritional adequacy, because as prospective mothers, the nutritional status of premarital women of reproductive age will affect the fetal growth and development, infant health, mother and baby safety during childbirth. But at this time, their concern of body image increases which can affect the eating behavior, one of which is skipping meals behavior. Skipping meals behavior has an impact on poor diet quality, in the long term, it can affect the nutritional status.

Objectives: The aim of this research was to describe the association between body image and skipping meals behavior among premarital women of reproductive age in Bantul district.

Methods: This study was an observational study with a cross-sectional design. This study was conducted on 132 premarital women of reproductive age in Bantul district who registered their marriage at the office of religious affairs. Body image measurement used Body Shape Questionnaire 34 (BSQ-34) and skipping meals behavior was measured by questionnaire. Data was analyzed with Mann-Whitney because data was not normally distributed.

Results: A 30.3% of respondents had a negative body image. The median value of a respondent's skipping meals behavior was 2 times/week. Respondents who had a negative body image more often do skipping meals 4 times/week compared to respondents who had a positive body image 2 times/week. The result of bivariate analysis showed a significant association between body image and skipping meals behavior $p < 0,001$.

Conclusions: There was a significant association between body image and skipping meals behavior. It is recommended for the office of religious affairs to provide material related to body image and the importance of eating regularly to prevent nutritional problems during pregnancy in marriage guidance activities.

KEYWORD: Premarital women of reproductive age; *body image*; *skipping meals behavior*

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INTRODUCTION

Premarital women of reproductive age need to prepare their nutritional adequacy, because as prospective mothers the nutritional status of premarital women will affect the fetal growth and development, infant health, mother and baby safety during childbirth (1). Premarital period is a period before pregnancy. Optimal nutritional status during the premarital period is the key to the birth of a normal and healthy infant (2).

Maintaining optimal nutritional status during the premarital period is the right time to reduce risk of nutritional problems during pregnancy such as chronic energy deficiency (CED). A person is categorized as CED if the upper arm circumference is less than 23.5 cm (3). Based on Indonesian Basic Health Survey 2018, the proportion of non-pregnant women of reproductive age was 14.5% (4). In the Special Region of Yogyakarta, the prevalence of non-pregnant women of reproductive age was 19.8%. The

highest incidence of CED was in Bantul district, with the prevalence was 20.11% (5). Our previous study in Bantul district found that the prevalence of CED in women of reproductive age was 35,6% (6).

During the premarital period, the concern of body image can increase. Body image has a broad meaning that refers to the thoughts, feelings, and perception of individuals about their body shape (7). Interest in body image increases along with the increasing influence of social media in shaping people's views about need to look perfect at the time of wedding (1). An Australian study examining the prevalence of appearance and weight concerns in 879 brides-to-be found that almost 75% of the sample intended to exercise more and follow a diet plan, while more than 35% planned to reduce their fat or carbohydrate intake. The average sample wished to lose more than 8 kg on the wedding day (8). Body image is one of the factors that can affect a person's eating behavior. A study conducted in the United Arab Emirates on university students Zayed United Arab Emirates 24% of the sample showed the nature of irregular eating, 74.8% were not satisfied with their body image. Irregular eating attitudes had a positive correlation with body image dissatisfaction and negatively correlated with satisfaction of body image (9).

One of the bad eating behaviors is skipping meals behavior. Skipping meals behavior is the behavior of neglecting or reducing intake of one or more main meals (breakfast, lunch or dinner). In a systematic review, breakfast was the most frequently skipped meal 14-88% compared to 8-57% lunch and 4-57% dinner in young adults (10). In a study conducted in Poland on female college students, 11% of respondents skipped breakfast, 8.2% skipped lunch, and 12.6% skipped dinner, this skipping behavior was affected by perceptions of body mass (11). Frequent skipping meals has an impact on poor diet quality, insufficient intake of vitamins and minerals, and it is a risk factor for chronic diseases such as central obesity and insulin resistance (12). The aim of this research was to describe the association between body image and skipping meals behavior among

premarital women of reproductive age in Bantul district.

MATERIALS AND METHODS

This study was an observational study with a cross-sectional design. This study was conducted at the Office of Religious Affairs of Bantul, Banguntapan, Kasihan, and Sewon subdistrict in Bantul district, Special Region of Yogyakarta in June – July 2022. The population of this study were all premarital women of reproductive age in Bantul district who registered their marriage at the office religious affairs. Based on the calculation of sample size, it was obtained that the minimum of samples that must be met were 130 subjects, but 132 subjects were obtained when the study was conducted. Sampling was done by quota sampling technique. The inclusion criteria were women 19-49 years old, will get married for the first time, registered their marriage at office religious affairs, not-pregnant, signed the informed consent form. The exclusion criteria was women who were on a certain diet due to illness. Ethical approval was granted by the Alma Ata University Ethics Committee with ethical approval number KE/AA/VI/10821/EC/2022.

Body image was measured using the Body Shape Questionnaire-34 (BSQ-34) which was adopted from Sitepu (2020) which has been tested for validity and reliability. The instrument showed very high internal consistency reliability, which was 0.966 ($\alpha > 0.9$) with a sensitivity value of 99% and a specificity value of 98%, so the questionnaire was valid and could be used to measure body image (13). Then the results obtained were categorized into negative body image if the total score was 80 and positive if the total score was less than 80 (14). Skipping meals behavior was measured using a questionnaire. The questionnaire consists of two questions i.e. how many times did the respondent do skipping meals in the last week and what meal times were the most skipped. Skipping meals behavior was measured using a numerical scale of 0-7 times/week according to Bahl et al in 2012 (15). Statistical analysis used Mann-Whitney because the data obtained was not normally distributed.

The test used to determine the normality of the data was Kolmogorov Smirnov (16).

RESULTS AND DISCUSSIONS

Participants in this study were 132 women of reproductive age in Bantul district with an age range of 19-36 years old. The characteristics of subjects are shown in **Table 1**. The research

participants amounted to 132 people with the largest number was from KUA Sewon (36.4%). Based on the research location, participants with the highest negative body image were from KUA Sewon (47.5%).

Participants with the highest skipping meals behavior were from KUA Sewon and Bantul 3 times/week.

Table 1. Characteristics of Subjects

Characteristics	Total (n = 132)	Body image		Skipping meals behavior	
		Negative (n = 40)	Positive (n = 92)	Median	IQR
Religious Affairs Office Location (KUA)					
Kasih	43 (32.6%)	12 (30%)	31 (33.8%)	2	4
Bantul	16 (12.1%)	4 (10%)	12 (13%)	3	3
Sewon	48 (36.4%)	19 (47.5%)	29 (31.5%)	3	3
Banguntapan	25 (18.9%)	5 (12.5%)	20 (21.7%)	2	2
Age (years)					
<20	4 (3%)	1 (2.5%)	3 (3.3%)	2.5	3
20-35	127 (96.2%)	39 (97.5%)	88 (95.7%)	3	2
>35	1 (0.8%)	0 (0%)	1 (1%)	1	
Education Level					
Elementary school	1 (0.8%)	0 (0%)	1 (1.1%)	3	
Junior/senior high school	72 (54.5%)	24 (60%)	48 (52.2%)	2	3
College	59 (44.7%)	16 (40%)	43 (46.7%)	2	3
Occupation Status					
Not working	11 (8.3%)	4 (10%)	7 (7.6%)	1	3
Working	121 (91.7%)	36 (90%)	85 (92.4%)	2	3
Income/month					
< Rp. 1.916.848,-	66 (50%)	16 (40%)	50 (54.3%)	2	2
≥ Rp. 1.916.848,-	66 (50%)	24 (60%)	42 (45.7%)	3	3
Nutritional status					
Underweight	28 (21.2%)	1 (2.5%)	27 (29.4%)	2	2
Normal	68 (51.5%)	17 (42.5%)	51 (55.4%)	2	3
Overweight	36 (27.3%)	22 (55%)	14 (15.2%)	3	3

The majority of participants aged 20-35 years old (96.2%), the highest negative body image in the age group 20-35 years old 31% of participants, with meal skipped 3 times/week. 54.5% of participants had secondary education (junior/senior high school). Participants with the highest negative body image were participants with a junior/senior high school education (60%). Based on education level, the highest skipping meals behavior was in elementary school participants 3 times/week.

The majority of the participants had worked (91.7%), 90% of the participants who had a negative body image were participants who had worked. Based on the occupation status, the highest skipping meals behavior was in

participants who have worked (2 times/week). 50% of the participants had income per month more than Rp. 1,916,848,- (\geq regional minimum wage), 60% of participants who had a negative body image were participants with income more than regional minimum wage, participants who did the highest skipping meals were 3 times/week. 51.5% of the participants had normal nutritional status.

Based on nutritional status, the highest negative body image was in the overweight group 55% of participants with skipping meals 3 times/week. Based on **Table 1**, it is known that most of the participants had a positive body image 69.7% (92 people), while only 30.3% (40 people) of the participants had a negative body image.

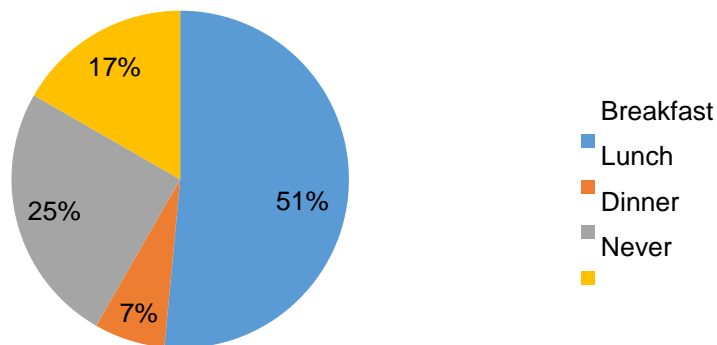


Figure 1. Distribution of skipped meal times

The lowest frequency of skipping meals behavior of participants was 0 times/week and the highest was 7 times/week. The median value

of skipping meals behavior was 2 times/week with the most frequently skipped meal times was breakfast (51%).

Table 2. Association between body image and the frequency of skipping meals behavior

	Body image	N	Median of skipping meals behavior	p-value
Skipping meals behavior	Negative	40	4	< 0.001*
	Positive	92	2	

*) analyzed using Mann-whitney test

Based on **Table 2**, it is known that there was a significant association between body image and skipping meals behavior ($p < 0.01$). Participants who had a negative body image tend to do skipping meals more often (4 times/week) than participants who had a positive body image only 2 times/week.

DISCUSSIONS

Based on the results of the study, it was found that the majority of participants were from KUA Sewon (36.4%). A total of 96.2% were aged 20-35 years. The highest frequency of skipping meals behavior was found in participants 20-35 years (3 times/week) while participants aged over 35 years only 1 time/week. This study is in line with research conducted by Lee and Yoon (2014) where skipping meals behavior was more often carried out at a younger age than at an older age (17). It is because someone at a young age concerns more attention to their body shape (body image). In this study, of all participants who have a negative body image, 97.5% of them are in the age range 20-35 years. Participants with a negative body image tend to be dissatisfied with their body shape, limiting their intake to become more ideal.

Based on the education level of the participants, it is known that the highest frequency of skipping meals behavior was in elementary school participants (3 times/week). In line with our findings, research conducted by Pendergast (2019) found that skipping meals was more common in people with lower education (12). Someone with higher education is likely to be more exposed to information about health, especially nutrition, than someone with low education. Participants with secondary education (junior/senior high school) had more positive body images (52.2%) than participants with higher education (46,7%). This is in line with research in Legon in 2014 which found that women who had lower education were more satisfied with their body image than those who had higher education (18).

Based on occupation status, it is known that the highest frequency of skipping meals behavior was found in participants who had worked (2 times/week). It related to participants who were already working tend to be busier, so they had less time to eat. This is in line with research conducted by Afolabi (2013) which stated that 48% of the sample who did skipping meals was due to lack of time (19). Based on the level of income, participants who had income of more than Rp. 1,916,848,- (\geq regional minimum wage) tend to do skipping meals more often than participants who had income $<$ Rp. 1,916,848,- ($<$ regional minimum wage). This current study is different from research conducted by Ukegbu (2015) which stated that skipping meals behavior was affected by money or lack of money, someone who had less money tended to skipping meals more often (20). The difference in the results of this study can be caused by socio-cultural differences, respondents in this study still live with their parents so that even though their income is less, they can still eat regularly because they are still borne by their parents. Not only that, it can be caused participants with higher incomes to be busier at work so they have less time to eat.

Based on nutritional status, skipping meals behavior was more often carried out by overweight participants (3 times/week) than underweight and normal participants (2 times/week). It is because someone with overweight and obese nutritional status tends to have a negative body image or feel dissatisfied with their body shape that is higher than someone with normal nutritional status (21). Most of the participants had a positive body image (69.7%), while only 30.3% had a negative body image. In line with our findings, the previous research in Yogyakarta city showed that the majority of women of reproductive age had a positive body image, and only 12.1% had a negative body image (1). A negative body image can affect a person's eating behavior. Irregular eating behavior has a positive correlation with negative body image, and negatively correlated with positive body image (9). One of the irregular eating behaviors is

skipping meals behavior. The results of this study show that the median value of skipping meals behavior was 2 times/week with the most frequently skipped meal times was at breakfast (51%). This is in line with the research conducted by Pendergast (2016), breakfast was the most frequently skipped meal time 14-88% compared to lunch 8-57%, and dinner 4-57% (10). In addition, this study is also in line with research conducted in Egypt by Eittah (2014), breakfast was the most frequently skipped meal time (72.7%) (22).

There was a significant association between body image and skipping meals behavior in women of reproductive age in Bantul district ($p < 0.001$). Subjects who had a negative body image do skipping meals more often (4 times/week) than subjects who had a positive body image 2 times/week. In line with our findings, the research in Poland found that skipping meals behavior was affected by perceptions of body mass (body image) (11). Body image dissatisfaction makes someone control their weight by skipping meals (23). Someone who has a negative body image tends to have a dissatisfied feeling with her body shape and weight, so she plans to diet to be ideal by limiting food intake, one of which is skipping meals behavior (24).

A study in Bantul showed that the majority of Women of reproductive age intake was still lacking (<80% of RDA) (25). It showed that without skipping meals the intake of women of reproductive age was still less than the recommended dietary allowance (RDA), especially if women of reproductive age do skipping meals their intake can be even less and in a long time it can affect their nutritional status. It needs special attention because as prospective mothers, the nutritional status of premarital reproductive age women can affect pregnancy. Maintaining optimal nutritional status during the premarital period is the right time to reduce the risk of nutritional problems during pregnancy such as chronic energy deficiency (CED). CED in pregnant women can cause various problems including anemia, maternal death during childbirth, fetal death, low birth

weight (LBW) babies, premature birth, and infant death (26).

CONCLUSIONS AND RECOMMENDATIONS

There was a significant association between body image and skipping meals behavior in premarital women of reproductive age in Bantul district. Most (69.7%) premarital women of reproductive age in Bantul district had a positive body image. The median value of skipping meals behavior in premarital women of reproductive age was 2 times/week.

Premarital women of reproductive age who had a negative body image were more likely to do skipping meals 4 times/week than those who had a positive body image 2 times/week, with breakfast the most often skipped. The current study suggests for the office of religious affairs provides material related to body image and the importance of eating regularly to prevent nutritional problems during pregnancy in marriage guidance activities.

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REFERENCES

1. Paratmanitya Y, Hadi H, Susetyowati. Citra tubuh, asupan makan, dan status gizi wanita usia subur pranikah. *J Gizi Klin Indones*. 2012;8(3):126–34.
2. Susilowati, Kuspriyanto. *Gizi dalam Daur Kehidupan*. 1st ed. Bandung: PT Refika Aditama; 2016. 1–292 p.
3. Fariski C, Dieny FF, Wijayanti HS. Kualitas Diet, Status Gizi Dan Status Anemia Wanita Prakonsepsi Antara Desa Dan Kota. *Gizi Indones*. 2020;43(1):11–4.

4. Kemenkes RI. Laporan Nasional Riskesdas 2018. Badan Penelitian dan Pengembangan Kesehatan. 2018. 221–222 p.
5. Tim Riskesdas 2018. Laporan Provinsi DI Yogyakarta Riskesdas 2018. Jakarta: Lembaga Penerbit Badan Penelitian dan Pengembangan Kesehatan; 2019.
6. Paratmanitya Y, Helmyati S, Nurdiati DS, Lewis EC, Gittelsohn J, Hadi H. The effect of a maternal mentoring program on the timing of first antenatal care visit among pregnant women in Bantul , Indonesia : Results of a cluster randomized trial. *Heal Promot Perspect.* 2021;11(3):307–15.
7. Putra NMWND, Arsana IWE, Permatananda PANK. Hubungan Antara Body Image dengan Perilaku Diet pada Mahasiswi Fakultas Kedokteran dan Ilmu Kesehatan Universitas Warmadewa Tahun Angkatan 2020. *Aesculapius Med J.* 2021;1(1):27–31.
8. Prichard I, Tiggemann M. Unveiled: pre-wedding weight concerns and health and beauty plans of Australian brides. *J Health Psychol.* 2009;14(7).
9. Thomas J, Khan S, Abdulrahman AA. Eating attitudes and body image concerns among female university students in the United Arab Emirates. *Appetite.* 2010;54(3):595–8.
10. Pendergast FJ, Livingstone KM, Worsley A, McNaughton SA. Correlates of meal skipping in young adults: A systematic review. *Int J Behav Nutr Phys Act.* 2016;13(1).
11. Suliga E, Wronka I, Pawlińska-Chmara R. Nutritional habits of female university students in relation to self-perception of body. *Biomed Hum Kinet.* 2012;4:98–102.
12. Pendergast FJ, Livingstone KM, Worsley A, McNaughton SA. Examining the correlates of meal skipping in Australian young adults. *Nutr J.* 2019;18(24):1–10.
13. Sitepu FH, Effendy E, Amin MM. Validity and Reliability of Instruments Body Shape Questionnaire-34 (BSQ-34) Based on Indonesian Version. *PalArch's J Archaeol Egypt/Egyptology.* 2020;17(6):1545–55.
14. Zahrah A, Muniroh L. Body Image Mahasiswa Gizi serta Kaitannya dengan Asupan Energi dan Status Gizi. *Media Gizi Indones.* 2020;15(2):66–72.
15. Bahl S, Milne GR, Ross SM, Chan K. Mindfulness: A Long-term Solution for Mindless Eating by College Students. *J Public Policy Mark.* 2012;32(2):173–84.
16. Rachmat M. Metodologi Penelitian Gizi dan Kesehatan. Jakarta: EGC; 2018. 446 p.
17. Lee J-E, Yoon W-Y. A study of dietary habits and eating-out behavior of college students in Cheongju area. *Technol Heal Care.* 2014;22(3):435–42.
18. Dotse JE, Asumeng M. Relationship Between Body Image Satisfaction and Psychological Well-Being: The Impact of Africentric Values. *J Soc Sci Stud.* 2015;2(1):320–42.
19. Afolabi WAO, Towobola SK, Oguntona CRB, Olayiwola IO, Afolabi WAO. Pattern of fast foods consumption and contribution to nutrient intake of Nigerian University students. *Int J Educ Res.* 2013;1(5):1–10.
20. Ukegbu P, Uwaegbute A, Usonka V. Contribution of Snacks to Energy and Nutrient Intake of Undergraduates in a Nigerian University. *Mal J Nutr.* 2015;21(1):15–23.
21. Wardani DAK, Huriyati E, Mustikaningtyas M, Hastuti J. Obesitas, Body Image, dan Perasaan stres pada Mahasiswa di Daerah Istimewa Yogyakarta. *J Gizi Klin Indones.* 2015;11(4):161–9.
22. Eittah HFA. Effect of breakfast skipping on young females' menstruation. *Heal Sci J.* 2014;8(4):469–84.
23. Ganesan S, Ravishankar SL, Ramalingam S. Are Body Image Issues Affecting Our Adolescents? A Cross-sectional Study among College Going Adolescent Girls. *Indian J Community Med.* 2018;43:42–6.
24. Bening, S. & Margawati A. Perbedaan Pengetahuan Gizi, Body Image, Asupan Energi dan Status Gizi pada Mahasiswa Gizi dan Non-Gizi Universitas Diponegoro. *J Nutr Coll.* 2014;3(4):715–22.

25. Paratmanitya Y, Helmyati S, Nurdiati DS, Lewis EC, Hadi H. Assessing preconception nutrition readiness among women of reproductive age in Bantul, Indonesia: findings from baseline data analysis of a cluster randomized trial. *J Gizi dan Diet Indones (Indonesian J Nutr Diet.* 2020;8(2):68–79.
26. Stephanie P, Kartika S. Gambaran Kejadian Kurang Energi Kronik Dan Pola Makan Wanita Usia Subur Di Desa Pesinggahan Kecamatan Dawan Klungkung Bali 2014. *E-Jurnal Med Udayana.* 2016;5(6):1–6.