International Journal of Advanced Health Science and Technology
Multidisciplinary : Rapid Review : Open Access Journal e-ISSN:2808-6422; p-ISSN:2829-3037

RESEARCH ARTICLE OPEN ACCESS

Manuscript received February 5, 2023; revised March 20, 2023; accepted April 20, 2023; date of publication April 30, 2023
Digital Object Identifier (**DOI**): https://doi.org/10.35882/ijahst.v3i2.216

How to cite: Dian Isti Angraini, Asiah Nurul Izzah, Khairun Nisa, Reni Zuraida, "Factors Influencing the Selection of Healthy and Unhealthy Diet Behavior in Adolescent Girls in Bandar Lampung", International Journal of Advanced Health Science and Technology, vol. 3, no. 2, pp. 72–78, April. 2023.

Factors Influencing the Selection of Healthy and Unhealthy Diet Behavior in Adolescent Girls in Bandar Lampung

Dian Isti Angraini[1], Asiah Nurul Izzah[2], Khairun Nisa[3], Reni Zuraida[1]

[1] Departement of Community Medicine and Public Health, Medical Faculty, Lampung University, Bandar Lampung, Indonesia
[2] Medical Faculty, Lampung Univesrity, Bandar Lampung, Indonesia
[3] Departement of Physiology and Biomolecular, Medical Faculty, Lampung University, Bandar Lampung, Indonesia

Corresponding author: Dian Isti Angraini (e-mail: riditie@gmail.com).

ABSTRACT Adolescence is a period of a transitional development from children to adult women who are generally 10-21 years old. Adolescents have significant physical, psychosocial, and cognitive changes that can affect adolescent dietary behavior. The purpose of this study was to determine the effect of affecting factors on unhealthy dietary behavior in adolescent girls. This research is an analytic observational study, with a cross-sectional design approach using primary data, which was conducted from April to June 2022. The sample is 135 adolescent girls aged 15-21 years old taken using multistage random sampling who met the inclusion and exclusion criteria. The data was obtained by filling out the questionnaire and analyzed by using the chi-square test. The results showed that 56.3% of respondents had unhealthy dietary behavior. The results of the bivariate analysis showed that nutritional status (p = 0.000; PR = 2.072) and body image (p = 0.000; PR = 0.559) influenced unhealthy dietary behavior. Meanwhile, knowledge (p=0,227), age (p=0,158), pocket money (p=0,452), and peers (p = 0.120) did not influence unhealthy dietary behavior. It can be concluded that there is an influence of nutritional status and body image factors on unhealthy diet behavior. Based on the research results, adolescent girls must have a healthy diet according to balanced nutrition guidelines in achieving normal nutritional status and a good body image.

INDEX TERMS adolescent girls, factors, unhealthy diet.

I. INTRODUCTION

Adolescent girls are in the developmental period of transition from children to adult women who are generally 10-21 years old. Adolescent girls experience significant physical, psychosocial, and cognitive changes at this time. The physical development of female adolescents, which is characterized by drastic weight gain, occurs during puberty due to an increase in the composition of fat mass, whereas in male adolescents it is due to an increase in the composition of muscle mass [1]. Increasing the composition of fat mass in adolescent girls is needed for growth and development, one of which is sexual maturity because fat is one of the nutrients needed in the formation of sexual hormones [2]. Adolescent girls who experience puberty have specific fat that appears as a sign of secondary sex which is usually stored in the breasts, upper arms, lower abdomen, genitals, and thighs [3].

Psychosocial development also occurs in adolescent girls. Erikson states that adolescence is the peak of the search for self-identity. The process of searching for self-identity is social, meaning that the search or formation of identity is influenced by the interaction of adolescents with the people around them. Three periods of adolescent psychosocial development namely, early adolescence, middle adolescence, and late adolescence. Early adolescents aged 10-14 years tend to compare things with their peers and attach great importance to peer acceptance. Middle adolescents aged 15-17 years begin to pay attention to physical growth and have a body image that tends to be wrong. Late adolescents aged 18-21 years have felt comfortable with their self-worth and the influence of their

peers has diminished [4]. Young women who do a lot of diets are also influenced by clothing trends published in the mass media. Today's women seem to be required to have a thin and tall posture [5].

Research conducted regarding the prevalence of overweight, obesity, and adolescent dietary behavior in Dubai schools, it was found that the dietary habits of adolescents 30 days before the surveys didn't eat fruits 21,3% of adolescents and 19,7% of adolescents who did not eat vegetables. Consumption of milk in adolescents in the 7 before the survey was found to be 3,3% of adolescents who did not drink milk or dairy products. 31% of adolescents consume carbonated drinks every day. 18,4% of adolescents did not have breakfast in the 7 days before the survey. Consumption of fast food among adolescents was so high in the 7 days before the survey was conducted, namely 78,9% of adolescents [6].

The proportion of the Indonesian population aged more than 10 years who have the behavior of consuming fatty foods, cholesterol, and fried foods is 40,7%, consuming salty foods is 26,2%, and consuming sweet foods is 53,1%. As well as the percentage of behavior that consumes fewer vegetables and fruit is 93,5% [7]. Research conducted in the Central region of Ghana on 1.311 in-school adolescents who had a healthy diet found that as many as 49,4% [8]. The proportion of the population aged 15-19 years in Lampung who has the behavior of consuming fatty foods, cholesterol, and fried foods is 42,93%, consuming salty foods is 32,4%, consuming sweet foods is 41.75%, and consuming fewer vegetables and fruit 67,32% [9].

Adolescent diets that are not optimal and caused unfulfilled nutrients will be associated with poor health [10]. Unhealthy dietary behavior that causes deviant eating behavior also has the potential to occur in adolescents [11]. Research regarding deviant eating behavior in adolescents in Jakarta states that individuals who have a good metabolism will be able to implement a good diet and get satisfactory results, but for individuals who are not gifted with these abilities, dieting methods are rarely successful [12]. It is these individuals who are not successful that begin to feel hopeless and start to engage in deviant eating behaviors (Eating Disorders). The three major eating disorders are anorexia nervosa, anorexia bulimia, and binge eating disorder [13].

Factors that influence adolescent eating behavior are parental income, peers, and knowledge [14]. Research regarding body dissatisfaction and dietary behavior in female adolescents found that several factors can trigger dietary behavior, including health values (health beliefs), personality, the influence of family relationships, family socioeconomic status, and body dissatisfaction. Teachers at school are another factor that influences diet in adolescents [15]. Research regarding the quality of the diets of elementary and secondary school teachers in the United States, it was found that respondents had quite unhealthy personal dietary habits. Respondents who had the least healthy diets were more likely to engage in classroom practices that could adversely affect their students' dietary patterns [16].

Adolescents' dietary behavior is also inseparable from media and advertising factors. Of the 54 respondents who were influenced by the media or advertising, 45 female students (83,3%) had healthy dietary behaviors and 9 female students (16,7%) had unhealthy dietary behaviors [17]. Peers have a huge influence on adolescents on dietary behavior [18]. Nutritional status and pocket money do not have a significant relationship with dietary behavior, while psychological factors have a relationship with dietary behavior [17].

Dietary behavior carried out by adolescents has a relationship with poor nutritional status because adolescents often limit food consumption with consumption patterns that are not following the principles of nutrition. Physical changes during puberty can also affect body image because this is a time of heightened self-awareness. The body image that appears tends to be negative so teenagers often experience body dissatisfaction or dissatisfaction with body shape. Age is also one of the factors that influence dieting behavior because middle adolescents aged 15-17 years begin to pay attention to physical growth and have a body image that tends to be wrong [19].

Research on adolescent girls aged 15-19 years in Central Java states that the factors that influence the level of nutritional intake and eating practices of adolescent girls aged 15-19 are food intake (energy, protein, carbohydrates, fat), socioeconomic status, and food availability at the household [20].

Research on adolescent girls aged 15-19 years in Benin city concluded that factors influencing adolescent girls eating habits are knowledge, family income, self-efficacy, food appeal, family influence, food access and availability, food safety, health services, societal influence, media, and advertisement [21].

Research conducted in the Central Region of Ghana, concluded that factors that influence Ghanaian adolescent eating habits are media, parents, and peers. It appears that peer influence in the life of adolescent students should be taken into account when dealing with eating habits. As stated earlier, too much of p influence can result in unhealthy eating habits. It would be recommended that adolescents are guided on healthy eating habits with the assistance of guidance coordinators in their schools, parents, teachers, and dieticians [22].

The purpose of this research was to determine the effect of affecting factors (knowledge, age, nutritional status, body image, pocket money, and peer influence) on unhealthy dietary behavior in adolescent girls in Bandar Lampung city.

II. METHOD

This research is observational analytical research with a cross-sectional design. This study was conforming April until June 2022, located in Bandar Lampung City. The sample size was 135 adolescent girls counted using independent analytical categoric sampling formula. The sample was taken using

Multistage Random Sampling. The inclusion criteria included adolescent girls aged 15-21 years old with approval from themselves and their parents.

The independent variables in this study are knowledge, age, nutritional status, body image, pocket money, and peer influence. The dependent variable in this study is diet behavior. Knowledge is categorized as poor and good knowledge based on the questionnaire. Age was categorized into mid-adolescent girls and late-adolescent girls based on a questionnaire. Nutritional status is categorized into malnutrition and normal nutrition based on body mass index. Body image is categorized as satisfied and dissatisfied based on the body shape questionnaire. Pocket money is categorized as low and adequate pocket money based on the average pocket money of adolescents. Peers are categorized as having influence and not based on the questionnaire. Diet behavior is categorized into healthy and unhealthy diet behavior based on the semi-quantitative food questionnaire (SQFFQ) which includes the amount and type of food according to the principle of balanced nutrition. All the questionnaires used have been tested for validity and reliability. The data were processed and analyzed using univariate, and bivariate using chi-square. This research has obtained ethical clearance from the research ethics committee of the medical faculty of the University of Lampung with the ethical approval number 1408/UN26.18/PP.05.02.00/2022.

III. RESULTS

The univariate analysis provides an overview of the characteristics of all the variables studied, namely the diet behavior of adolescent girls and the factors that affect the selection of it. The results showed that the research subjects had healthy diet behavior in as many as 59 people (43,7%) and unhealthy diet behavior in as many as 76 people (56,3%), knowledge regarding balanced nutrition was poor in as many as 117 people (86,7%) and good as many as 18 people (13,3%), middle adolescent girls as many as 125 people (92,6%) and late adolescent girls as many as 10 people (7,4%).

The results showed that the research subjects had nutritional status malnutrition in as many as 69 people (51,1%) and normal nutritional status in as many as 66 people (48,9%), dissatisfied body image in as many as 67 people (49,6%) and satisfied body image as many as 68 people (50,4%), adequate pocket money as many as 49 people (36,3%) and low pocket money as many as 86 people (63,7%), influenced by peers as many as 64 people (47,4%) and not influenced by peers as many as 71 people (52,6%). Characteristics of subjects are presented in TABLE 1. The bivariate analysis resulted in the effect of affecting factors (knowledge, age, nutritional status, body image, pocket money, and peer influence) on unhealthy dietary behavior in adolescent girls. The results showed that adolescent girls who have poor knowledge will behave unhealthy diet behavior as many as 63 people (53,8%) smaller than adolescent girls who have good knowledge as many as 13 people (72,2%). The results of statistical tests showed that knowledge did not influence the selection of unhealthy dietary behavior (p = 0,227).

The results of this research showed that adolescent girls who were middle adolescent girls will behave with unhealthy diet behavior as many as 73 people (56,4%) larger than adolescent girls who were late adolescent girls as many as 3 people (30%). The results of statistical tests showed that age had no influence on selection of unhealthy dietary behavior (p = 0,158).

TABLE 1
The Characteristics of Subjects

Variable	Amount (f)	Percentage (%)
Diet Behavior		
a. Unhealthy	76	56,3
b. Healthy	59	43,7
Knowledge		
a. Poor	117	86,7
b. Good	18	13,3
Age		
a. Middle adolescent	125	92,6
b. Late adolescent	10	7,4
Nutritional Status		
a. Malnutrition	69	51,1
b. Normal	66	48,9
Body Image		
a. Dissatisfied	67	49,6
b. Satisfied	68	50,4
Pocket Money		
a. Low	86	63,7
b. Adequate	49	36,3
Peer Influence		
a. Yes	64	47,4
b. No	71	52,6

The results of this research showed that adolescent girls who was malnutrition will behave unhealthy diet behavior as many as 52 people (75,4%) larger than adolescent girls who was normal nutrition status as many as 24 people (37,2%). The results of statistical tests showed that nutritional status had an influence on selection of unhealthy dietary behavior (p = 0,000). Nutritional status is a risk factor for unhealthy diet behavior in adolescent girls with OR = 2 (CI: 1,466-2,931), which means adolescent girls with malnutrition have a 2 times higher risk for unhealthy diet behavior, better than adolescent girls with normal nutritional status.

The results of this research showed that adolescent girls who was satisfied body image will behave unhealthy diet behavior as many as 49 people (72,1%) larger than adolescent girls who was dissatisfied body image as many as 27 people (40,3%). The results of statistical tests showed that body image had an influence on selection of unhealthy dietary behavior (p = 0,000). Body image is a risk factor for unhealthy diet behavior in adolescent girls with OR = 1,8 (CI: 0,403-0,775), which means adolescent girls with satissfied body image have a 1,8 times higher risk for unhealthy diet behavior, better than adolescent girls with dissatisfied body image.

The results of this research showed that adolescent girls who had low pocket money will behave unhealthy diet behavior as

many as 25 people (51%) smaller than adolescent girls who had adequate pocket money as many as 51 people (59,3%). The results of statistical tests showed that pocket money had no influence on selection of unhealthy dietary behavior (p = 0,860).

The results of this research showed that adolescent girls who had peers influence will behave unhealthy diet behavior as many as 41 people (64,1%) larger than adolescent girls who had no peers influence as many as 35 people (49,3%). The results of statistical tests showed that peers had no influence on selection of unhealthy dietary behavior (p = 0,120). The influence of factors affecting the selection of healthy and unhealthy diet behavior in adolescent girls in Bandar Lampung is presented in TABLE 2.

TABLE 2
The Influence of Factors Affecting The Selection Of Healthy And Unhealthy Diet Behavior In Adolescent Girls

Variable	Unhealthy Diet Behavior		Healthy Diet Behavior		*p* value	OR	95% CI
	n	%	n	%			
Knowledge					0,227	NA	0,53-
a. Poor	63	53,8	54	46,2			1,03
b. Good	13	72,2	5	27,8			
Age					0,158	NA	0,74-
a. Middle	73	56,4	52	41,5			5,07
b. Latel	3	30	7	79			
Nutritional Status					0.000*	2	1,46- 2,93
a. Malnutrition	52	75,4	17	24,6			
b. Normal	24	37,2	42	63,6			
Body Image					0.000*	1,8	0,40-
a. Satissfied	49	72,1	19	27,9			0,77
b. Dissatisfied	27	40,3	40	59,7			
Pocket Money					0,452	NA	0,62-
a. Low	51	59,3	35	40,7			1,19
b. Adequate	25	51	24	49			
Peer Influence					0,12	NA	0,96-
a. Yes	41	64,1	23	35,9			1,75
b. No	35	49,3	36	50,7			

IV. DISCUSSION

The results of this study indicate that 56,3% of adolescent girls have unhealthy dietary behaviors. This shows that the incidence of unhealthy dietary behavior in young women is still high. An unhealthy diet is the habit of consuming food that does not provide the essential nutrients needed in the body's metabolism [22].

Essential substances that are not met will affect the process of energy metabolism. Energy is a substance that is needed by living things to sustain life, support growth, and carry out physical activity which is obtained from the metabolism of carbohydrates, proteins, and fats [23]. To meet energy needs, it is necessary to enter sufficient nutrients into the body. Less energy intake can occur if the body consumes less energy through food than the energy expended. Meanwhile, more energy intake can occur if the body consumes more energy through food than the energy expended. Both of these are caused by unhealthy dietary behavior [17].

The impact of unhealthy dietary behavior on adolescents will have an impact on physical growth. Nutritional deficiencies, especially iron and calcium, often occur in adolescents with unhealthy dietary behaviors. Reducing energy intake during the growth period can also be associated with slowed growth [10]. Adolescent girls who eat irregularly but do not lose weight will have an impact on the menstrual cycle to become irregular and can be included in secondary amenorrhea. There is a long-term risk of osteopenia and osteoporosis in young women who have an unhealthy diet. Anemia in young women is often experienced due to poor eating habits and monthly menstrual cycles [22].

The results of this study found that knowledge has no effect on the behavior of selecting healthy or unhealthy diets in adolescent girls. Adolescent girls who have unhealthy dietary behavior are mostly young women with good knowledge (72,2%). This is because sufficient dietary knowledge does not guarantee that a person will have appropriate dietary behavior, if that knowledge is not based on a strong attitude or desire to meet nutritional needs [24].

Increasing knowledge in adolescents does not always lead to changes in behavior. Knowledge is an important factor, but does not underlie changes in health behavior. This shows that, even though young women know about healthy diet behaviors, it is not certain that these young women want to carry out healthy diet behaviors. In addition, providing information about ways of healthy dietary behavior will increase knowledge and raise awareness, but changing behavior in this way will take a long time [25].

Respondents lack knowledge because they generally do not know and do not understand well about a healthy diet, they do not seek information in the mass media or electronic media, and they have never been given health education about a healthy diet. Meanwhile, good knowledge is obtained from the respondent's memory of a material that has been previously studied regarding a healthy diet.

The results of this study found that age had no effect on the behavior of selecting healthy or unhealthy diets in adolescent girls. Adolescent girls with unhealthy diet behavior were mostly young women in their mid-teens (56,4%). Middle age is the age of adolescence with significant physical growth accompanied by the development of self-identity and starting to care about social issues related to others. Adolescents with an age range of 15-18 years tend to carry out experiments that have a positive developmental impact or developmental impacts that pose a risk to health [26].

Adolescence is a time when growth and development spurts occur and the brain's reward system is overhauled. Remodeling that occurs will affect emotional activity, cognitive control, and self-regulation that affect decision making, including choices about what and when to eat. Middle adolescence is a period marked by the development of a sense of identity and increasing self-autonomy. During this time, many teenagers are concerned about social and environmental issues, and have a high desire to experiment [27].

Adolescence is also a factor that affects body fat mass [28]. In addition, age has a big relationship with food consumption patterns and energy needs because as you get older, there are

changes in fulfilling energy and other nutritional needs [29]. Increasing age also affects the body's metabolism in meeting energy needs. Adolescents tend to still have a good metabolism although on the other hand they experience a higher increase in body fat mass, especially in young women.

The results showed that nutritional status had an influence on the behavior of selecting healthy or unhealthy diets in adolescent girls. Adolescent girls with unhealthy dietary behavior were mostly young women with malnutrition nutritional status (75,4%). Nutritional status is a macro picture of the body's nutrients. Nutritional problems in adolescents often occur due to wrong eating habits, including obesity, chronic malnutrition, and micronutrient deficiencies such as nutritional anemia [30]. Malnutrition nutritional status in this study showed young women who had less nutritional status or more nutritional status.

Good nutritional status or optimal nutritional status occurs when the body obtains enough nutrients to be used efficiently, thus enabling physical growth, brain development, work ability, and general health at the highest possible level. Malnutrition nutritional status occurs when eating behavior is not according to needs so that the body experiences a deficiency or excess of one or more essential nutrients [31].

The results showed that body image has an influence on the behavior of selecting healthy or unhealthy diets in adolescent girls. Adolescent girls with unhealthy dietary behavior were mostly young women who were satisfied with body image (72,1%). The results of this study state that adolescent girls are satisfied with their body image, so they no longer pay attention to the food they eat, and ultimately tend to eat unhealthy patterns.

Body image is a person's view of his physical appearance. Young women who are satisfied with their body image tend to have unhealthy dietary behaviors because they feel sufficient with their physical appearance, so they feel they do not need to maintain their physical appearance and choose to eat food carelessly without the need to follow rules or as needed. In addition, the dietary behavior of young women is one of the steps that can form self-identity. Adolescent girls who are satisfied with their body image are able to recognize themselves and understand their body's needs [32]. However, this does not necessarily result in behavior that is in accordance with his needs and abilities.

The results of this study found that pocket money had no effect on the behavior of selecting healthy or unhealthy diets in adolescent girls. Adolescent girls with unhealthy dietary behaviors are more likely to have low pocket money (59.3%). This is because most of the respondents in this study came from families with low incomes, which affected the distribution of pocket money from parents to children. Low pocket money makes most young women prefer to eat less nutritious foods because prices are lower and foods with higher nutritional quality tend to be more expensive per calories [33].

In this study, it was found that the income of fathers and mothers was mostly at the Regional Minimum Wage. Father's occupation and family income significantly influence adolescents' dietary behavior. Meanwhile, the mother's employment status and family size did not influence the dietary behavior of adolescents. This is presumably because the mother's time availability in determining adolescent dietary behavior is not determined by the amount of mother's time, but by its quality. However, if the mother's quality time is waiting but not supported by the father's income as the head of the family, then it will not contribute to family eating behavior.

The high need for young women today also causes respondents with low pocket money to tend to allocate their pocket money for transportation costs, beauty products, internet packages, and hobbies/plays, stationery needs, or others instead of using it for snacks [34].

The results of this study found that peers did not influence the behavior of selecting healthy or unhealthy diets in adolescent girls. The results of this study indicate that peers do not greatly influence the choice of a healthy diet because each adolescent girls has her own concept of what to eat and shape their body image. Respondents admit that peers have more influence on how they get along, take care of their beauty and play together.

Peers can indeed influence adolescent girls in terms of choosing food. This is because most teenagers do a lot of activities outside the home and make them rarely with their families and spend a lot of time with their friends and eating is a form of socialization and recreation [35].

The power of playmates is very strong during childhood and adolescence because most time is spent at school or other places with friends, so playmates can change good and healthy behaviors and habits related to eating patterns. The influence of these environmental factors also makes young women want to look like their friends who have ideal body shapes, especially young women. This feeling can cause young women to try to change their body shape by limiting their consumption of balanced nutritious foods [36].

The influence of friends begins to play an important role in the formation of adolescent self-concept. The influence of friends is high because most of the time adolescents spend at school or other places with their friends, so that friends can change good and healthy behaviors and habits related to healthy and unhealthy diet behaviors. The high influence of peers on unhealthy dietary behavior tends to be caused by the attitude of adolescents who like to try new things, in this case they begin to learn to determine their own food to be consumed [37].

The weakness of this study is that several variables used a questionnaire so that there is a risk of bias, namely the respondent fills in at random; and also researchers could not see the direct reaction of respondents in filling out the questionnaire.

V. CONCLUSION

The purpose of this study was to determine the effect of affecting factors on unhealthy dietary behavior in adolescent girls. This study results found that the influencing factors of unhealthy dietary behavior in adolescent girls were nutritional status and body image. Even though knowledge, age, pocket money, and peers had no statistical effect in this study, interventions carried out to change the dietary behavior of adolescent girls to a healthy diet should also consider these factors. Subsequent studies use different research instruments so that they can assess variables more validly and reduce bias.

REFERENCES

[1] A. R. Kansra, S. Lakkunarajah, and M. S. Jay, "Childhood and Adolescent Obesity: A Review," *Frontiers in Pediatrics*, vol. 8. Frontiers Media S.A., Jan. 12, 2021. doi: 10.3389/fped.2020.581461.

[2] J. K. Das *et al.*, "Nutrition in adolescents: physiology, metabolism, and nutritional needs," *Annals of the New York Academy of Sciences*, vol. 1393, no. 1. Blackwell Publishing Inc., pp. 21–33, Apr. 01, 2017. doi: 10.1111/nyas.13330.

[3] S. A. Widyaningtyas and A. Kartini, "HUBUNGAN USIA MENARCHE DENGAN OBESITAS PADA REMAJA PUTRI DI SMA THERESIANA 1 SEMARANG," 2013. [Online]. Available: http://ejournal-s1.undip.ac.id/index.php/jnc

[4] J. H. Pfeifer and E. T. Berkman, "The Development of Self and Identity in Adolescence: Neural Evidence and Implications for a Value-Based Choice Perspective on Motivated Behavior," *Child Dev Perspect*, vol. 12, no. 3, pp. 158–164, Sep. 2018, doi: 10.1111/cdep.12279.

[5] T. Heiman and D. Olenik-Shemesh, "Perceived body appearance and eating habits: The voice of young and adult students attending higher education," *Int J Environ Res Public Health*, vol. 16, no. 3, Jan. 2019, doi: 10.3390/ijerph16030451.

[6] M. Abdullatif, K. AlAbady, A. Altheeb, F. Rishmawi, H. Jaradat, and S. Farooq, "Prevalence of Overweight, Obesity, and Dietary Behaviors among Adolescents in Dubai Schools: A Complex Design Survey 2019," *Dubai Medical Journal*, vol. 5, no. 1, pp. 1–9, Nov. 2021, doi: 10.1159/000519863.

[7] Ministry of Health Republic of Indonesia, "Indonesia Basic Health Research 2013," Jakarta, 2013.

[8] T. Hormenu, "Dietary intake and its associated factors among in-school adolescents in Ghana," *PLoS One*, vol. 17, no. 5 May, May 2022, doi: 10.1371/journal.pone.0268319.

[9] Ministry of Health Republic of Indonesia, "Indonesia Basic Health Research 2018," Jakarta, 2018.

[10] D. A. Bundy, N. de Silva, S. Horton, D. T. Jamison, and G. C. Patton, "Child and Adolescent Health and Development 8 VOLUME DISEASE CONTROL PRIORITIES • THIRD EDITION," Washington DC, 2017.

[11] N. U. Habibah, A. F. A. Tsani, and S. DW, "The effect of Korean wave on body image and eating disorders among female adolescents in Yogyakarta, Indonesia," *Indonesian Journal of Clinical Nutrition*, vol. 18, no. 2, p. 78, Oct. 2021, doi: 10.22146/ijcn.63151.

[12] C. N. Rachmi, H. Jusril, I. Ariawan, T. Beal, and A. Sutrisna, "Eating behaviour of Indonesian adolescents: A systematic review of the literature," *Public Health Nutrition*. Cambridge University Press, 2020. doi: 10.1017/S1368980020002876.

[13] V. S. Helgeson, "Psychology of Gender," New York, May 2017. [Online]. Available: www.routledge.com/cw/Helgeson

[14] K. S. N. Liu, J. Y. Chen, M. Y. C. Ng, M. H. Y. Yeung, L. E. Bedford, and C. L. K. Lam, "How does the family influence adolescent eating habits in terms of knowledge, attitudes and practices? A global systematic review of qualitative studies," *Nutrients*, vol. 13, no. 11. MDPI, Nov. 01, 2021. doi: 10.3390/nu13113717.

[15] A. O. Safitri, R. Novrianto, and A. K. E. Marettih, "BODY DISSATISFACTION DAN PERILAKU DIET PADA REMAJA PEREMPUAN," *Psibernetika*, vol. 12, no. 2, Feb. 2020, doi: 10.30813/psibernetika.v12i2.1673.

[16] E. A. Parker *et al.*, "Diet quality of elementary and middle school teachers is associated with healthier nutrition-related classroom practices," *Prev Med Rep*, vol. 18, Jun. 2020, doi: 10.1016/j.pmedr.2020.101087.

[17] D. Y. Putri, "Faktor-faktor Yang Berhubungan Dengan Perilaku Makan Pada Remaja Putri di SMA Negeri 10 Padang," *Jurnal Keperawatan Komunitas*, vol. 1, no. 1, pp. 1–10, 2014.

[18] R. Nurjanah, "Faktor-faktor Pola Makan Pada Remaja di SMK Negeri 4 Yogyakarta," Universitas Negeri Yogyakarta, Yogyakarta, 2017.

[19] K. Mulgrew, "Puberty and Body Image," in *Encyclopedia of Child and Adolescent Development*, 1st ed., S. Hupp and J. Jewell, Eds. Wiley , 2020, pp. 1–9.

[20] Z. Shaluhiyah, R. Indraswari, and A. Kusumawati, "Faktor-Faktor yang Mempengaruhi Tingkat Asupan Gizi dan Praktik Makan pada Remaja Putri Usia 15-19 Years di Pedesaan Jawa Tengah Factors Influencing the Dietary Intake and Eating Practices among Adolescent Girls Aged 15-19 in Rural Area Central Java," Amerta Nutr, pp. 105–114, 2021, doi: 10.20473/amnt.v5i2.2021.

[21] S. Mama Chabi, N. Fanou-Fogny, E. Nago Koukoubou, B. Deforche, and W. van Lippevelde, "Factors Explaining Adolescent Girls' Eating Habits in Urban Benin: A Qualitative Study," *Adolescents*, vol. 2, no. 2, pp. 205–219, Apr. 2022, doi: 10.3390/adolescents2020017.

[22] P. M. Amos, F. D. Intiful, and L. Boateng, "Factors that were found to influence Ghanaian Adolescents' Eating Habits," *Sage Open*, vol. 2, no. 4, pp. 1–6, Oct. 2012, doi: 10.1177/2158244012468140.

[23] H. Cena and P. C. Calder, "Defining a healthy diet: Evidence for the role of contemporary dietary patterns in health and disease," *Nutrients*, vol. 12, no. 2. MDPI AG, Feb. 01, 2020. doi: 10.3390/nu12020334.

[24] C. Molnar *et al.*, "Concepts of Biology-1st Canadian Edition," Victoria, 2015.

[25] A. Kabir, S. Miah, and A. Islam, "Factors influencing eating behavior and dietary intake among resident students in a public university in Bangladesh: A qualitative study," *PLoS One*, vol. 13, no. 6, Jun. 2018, doi: 10.1371/journal.pone.0198801.

[26] N. M. Eze *et al.*, "Awareness of food nutritive value and eating practices among Nigerian bank workers," *Medicine (United States)*, vol. 96, no. 10, Mar. 2017, doi: 10.1097/MD.0000000000006283.

[27] C. Stangor and J. Walinga, "Introduction to Psychology-1st Canadian Edition," 2015.

[28] M. Sharma, R. Kupka, V. Tyler, and V. Aguayo, "Programming Guidance: Nutrition in Middle Childhood and Adolescent," New York, 2021.

[29] S. C. Schmidt, A. Bosy-Westphal, C. Niessner, and A. Woll, "Representative Body Composition Percentile From Bioelectrical Impedance Analyses Among Children and Adolescent: The Momo Study," *Clinical Nutrition*, vol. 38, no. 6, pp. 2712–2720, 2019.

[30] S. M. Robinson, "Improving nutrition to support healthy ageing: What are the opportunities for intervention?," in *Proceedings of the Nutrition Society*, Aug. 2018, vol. 77, no. 3, pp. 257–264. doi: 10.1017/S0029665117004037.

[31] A. Soliman *et al.*, "Nutritional interventions during adolescence and their possible effects," *Acta Biomedica*, vol. 93, no. 1, Mar. 2022, doi: 10.23750/abm.v93i1.12789.

[32] C. R. Titaley, I. Ariawan, D. Hapsari, A. Muasyaroh, and M. J. Dibley, "Determinants of the stunting of children under two years old in Indonesia: A multilevel analysis of the 2013 Indonesia basic health survey," *Nutrients*, vol. 11, no. 5, May 2019, doi: 10.3390/nu11051106.

[33] P. Arum, L. Putri, and H. Warsito, "DIETARY KNOWLEDGE, BODY IMAGE, AND DIETARY PRACTICES IN 18-20 YEAR OLD YOUNG WOMEN."

[34] C. D. Pfledderer *et al.*, "Mothers' Diet and Family Income Predict Daughters' Healthy Eating," *Prev Chronic Dis*, vol. 18, 2021, doi: 10.5888/PCD18.200445.

[35] R. A. Putri, Z. Shaluhiyah, and A. Kusumawati, "FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN PERILAKU MAKAN SEHAT PADA REMAJA SMA DI KOTA SEMARANG," vol. 8, no. 4, 2020, [Online]. Available: http://ejournal3.undip.ac.id/index.php/jkm

[36] V. L. Gadsden, M. Ford, and H. Breiner, *Parenting matters: Supporting parents of children ages 0-8*. National Academies Press, 2016. doi: 10.17226/21868.

[37] G. W. N. Tay *et al.*, "Children's perceptions of factors influencing their physical activity: a focus group study on primary school children," *Int J Qual Stud Health Well-being*, vol. 16, no. 1, 2021, doi: 10.1080/17482631.2021.1980279.
[38] G. Tomé, M. Matos, C. Simões, J. A. Diniz, and I. Camacho, "How can peer group influence the behavior of adolescents: explanatory model.," *Glob J Health Sci*, vol. 4, no. 2, pp. 26–35, 2012, doi: 10.5539/gjhs.v4n2p26.