

The Effect of Nutrition Education Using Cooperative Learning on Knowledge and Attitudes About Body Image in Adolescent Women in West Metro Sub-District, Metro City, Lampung Province, Indonesia

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Abstract: Young women is a time of growth that takes place quite quickly. Development includes physical, cognitive, and psychosocial. This period is a transition period marked by many changes, including increasing muscle mass, body fat tissue, and hormonal changes. It is essential to pay more attention to young women because the trend of marriage age is getting younger or young marriage when a person is still a teenager. One of the learning methods in the community is cooperative learning. This research is carried out with a quasi-experimental research design. The design used is a pre-test Time Series Design with cooperative learning treatment. Analyse the effect of cooperative learning on attitudes and knowledge using paired t-tests. The case population in this study was all Young Women in West Metro District, totalling 60 people, with a sample number of 25 people. This study lasts six months, from April to October 2023. This research was conducted in Ganjar Agung Village, West Metro District, Metro City. The test results significantly affected respondents' knowledge ($p < 0.05$) after the cooperative learning intervention. However, there was no significant difference in body image attitude ($p > 0.05$) before and after the intervention. There is an effect of nutrition education using cooperative learning on knowledge about body image, while it does not affect attitudes about body image in adolescent girls.

1 INTRODUCTION

Nutrients affect growth and development during infancy, toddler, and adolescence, with nutritional needs in adolescents greater than in previous times. This is because, in adolescence, there is a rapid growth called a growth spurt. Adolescence is a time of growth that takes place quite quickly. Growth includes physical, cognitive, and psychosocial. This period is a transition period marked by many changes, including increasing muscle mass, body fat tissue, and hormonal changes (Susetyowati, 2016).

The Indonesian Nutrition Survey (Kementerian Kesehatan RI, 2022) concludes that stunting prevention efforts are better than treatment efforts for stunting itself. Ministry of Health (2022) Prevention efforts are carried out in the First 1000 Days of Life. However, it is important to pay more attention to adolescence because the trend of marriage age is getting younger or younger marriage when a person is still a teenager.

According to behavioural theory, a person's behaviour is strongly influenced by intensity, attitude, subjectiveness, and perception of a person judging an object received. In addition, perception can influence changes in a person's behaviour if the role of internal or external factors is more dominant, such as education, experience, and environment, as a consideration in making decisions (Hadisaputro, 2011).

One of the learning methods in the community is cooperative learning. This learning method leads to the exchange of information between members in the group, and each member is responsible for the group and himself and is motivated to improve other learning (Budiarti, 2011). The results of research conducted by Mariamah (2012) stated that cooperative learning can increase students' achievement and motivation. This study aimed to determine the effect of nutrition education using cooperative learning on knowledge and attitudes about body image in young women in the Metro Barat sub-district.

2 METHODS

2.1 Research Design

This research was conducted with a quasi-experimental research design. The design used is a pre-post time series design, with cooperative learning treatment to determine the effect of interventions on attitudes and knowledge about body image in adolescent girls. This design is used as an evaluation of whether this intervention method has a significant impact between before and after.

2.2 Location and Time

This research was conducted in Ganjar Agung Village, West Metro District, Metro City from April to October 2023.

2.3 Population and sample

The population in this study was all adolescent women in the West Metro sub-district, totaling 60 people. The subjects of this study were Early Adolescents aged 12-24 years. The number of samples used is by the total sampling method, meaning that the entire population will be sampled after being determined by inclusion criteria (not breastfeeding, not pregnant, and not sick) and exclusion (not willing to be respondents). However, during the implementation of the study, the respondents who attended were 25 people.

2.4 Stages of Intervention

The intervention uses cooperative learning with no 6 stages. According to Suprijono (2013), the stages of cooperative learning are as follows:

1. Convey the objectives and preparation of participants
The first stage is to convey the purpose of nutrition education by providing a case to the group for discussion about body image in order to form a positive perception of body image. At this stage, participants are also prepared by looking at the total participants who come.
2. Present Initial Information
Participants are informed about the technical activities to be carried out. At this stage, participants are ready with the scenario that has been given by the researcher or facilitator.
3. Create Groups

The facilitator formed 4 groups with each group given different questions related to the given case.

4. Help teamwork and learning

At this stage, the group has carried out its activities by discussing based on empirical knowledge or experience that has been possessed by each group member. The facilitator assists so that the discussion does not go off track from the discussion.

5. Evaluate

Participants make presentations regarding the answers to questions that have been given by the facilitator. In addition, after listening to the answers from each group, the facilitator or researcher provides appropriate information about the questions in each group.

6. Give Rewards

The award is given after evaluation activities. The award is given to the group that answers the most appropriately.

2.5 Research Ethics

In the study, researchers carried out an ethical clearance procedure from the Research Ethics Commission with number 2053/UN26.18/PP.05.02.00/2023. Researchers explain to respondents about informed consent orally and in writing. Researchers will keep the personal identity of respondents confidential, and the data obtained is only used for research purposes. The instruments used in this study are quantitative research instruments.

2.6 Statistical Analysis

Results were analysed univariately with descriptive analysis of respondent characteristics. Bivariate analysis used an independent t-test to compare adolescent girls' knowledge and attitudes about body image. The significance value of the bivariate analysis uses a $p < 0.005$.

3 RESULTS

The research was conducted in Ganjar Agung Village, West Metro District, Metro City, Lampung, on August 27, 2023. The respondents were 25 women domiciled in Ganjar Agung Village, West Metro District, with the characteristics in Table 1.

The average age of respondents in this study was 17.36 years, with the majority of education being in Senior High School, which is 16 people. Based on the data obtained with an average height of 155 cm and an average body weight of 52 kg.

The stages of research carried out were preceded by an introduction by the head of the committee, then an introduction at the same time opened by the head of the community association. The next stage is the provision of a pre-test questionnaire regarding knowledge about body image. The next stage is to explain the learning objectives, after which a group of participants is formed.

The groups that have been formed are given the same scenario, but each group is given different questions. The next stage is discussion and continues with the presentation. Groups that answer questions from the most appropriate scenario get a reward. The last stage is the provision of a post-test questionnaire. The purpose of giving this questionnaire is to evaluate by comparing initial knowledge before carrying out cooperative learning.

Table 1: Characteristics of Young Women Respondent (n = 25 people)

Characteristic	n
Average Age of respondents	17
Last Level of Education	
a. Elementary School	1
b. Junior High School	7
c. Senior High School	16
d. University	1
Average Body Weight	52
Average Height	155.2
Body Mass Index	
a. Less	5
b. Normal	4
c. Overweight	16
Diet History	
a. Yes	10
b. No	15

3.1 Knowledge of Body Image in Young Women

Knowledge of body image was measured using questionnaires before and after the intervention. The measurement of body image knowledge at the beginning is aimed at knowing the initial knowledge of respondents. Ultimately, it was used to determine the effect of cooperative learning interventions on adolescent girls. The results of the analysis can be found that the $p < 0.05$.

Table 2: Young Women's Knowledge of Body Image (n=25)

Variable	Average Pre-Test Scores	Average Post Test Score	P value
Young women Body Image Knowledge	5.12 ± 1.74	6.32± 1.80	< 0.05

3.2 Attitude towards Body Image in Young Women

Attitude is a perception in adolescent girls, especially in this study, about body image. The initial attitude before the intervention aims to see the responses of adolescent girls before the intervention. In contrast, the attitude assessment at the end aims to assess the responses after being given information or education about body image. The results stated that adolescent girls' attitudes showed no difference before and after the intervention, with a $p > 0.05$. This is because the respondents had a good body image attitude value at the beginning and at the end of the intervention.

Table 3: Young Women's Attitudes on Body Image (n=25)

Variable	Average Pre-Test Scores	Average Post Test Score	P value
Young women's Body Image attitudes	7.64	8.12	> 0.05

4 DISCUSSION

The average age of respondents in this study was 17 years, with the majority of education being in Senior High School (SMA), which is 16 people. Based on the data obtained with an average height of 155 cm and an average body weight of 52 kg, this study's respondents' weight is estimated to have a medium and ideal body shape (P2PTM, 2018). This is also in line with the BMI, with most children, as many as 16 respondents, having average BMI values. Body Mass Index (BMI) is a simple tool to monitor the nutritional status of adults, especially those who are underweight and overweight (Destiara *et al.*, 2017). With the results showing that the BMI of most respondents is normal, it shows a good environment and *supports* around respondents in fulfilling their nutrition.

Based on the data obtained, respondents who have a history of diet are ten people. Most respondents in high school tend to have a diet history due to various factors (Astuti *et al.*, 2022; Dewi & Adriyanti, 2020). Adolescents in the emotional phase often make quick decisions without considering the risks and consequences that may occur in the future, one of which is the decision to go on a diet. Usually, this condition occurs when they feel less confident because they feel too fat (Yunita *et al.*, 2020) without realising that these habits may affect their nutritional status both now and the future (Abdelaziz *et al.*, 2015; Bharthi *et al.*, 2017).

Nutritional problems that often occur in adolescent girls are underweight and overweight. Lack of nutrition occurs because energy consumption and other nutrients need to meet the body's needs. However, in adolescent girls, malnutrition is generally because young women limit the amount of food they eat due to their perception of their bodies, commonly called body image. In meeting nutritional needs, nutrition knowledge is essential. Deep and extensive knowledge about nutrition will help someone choose the type of food they will consume in terms of quality, variety, and how to present the idea of nutrition (Margiyanti, 2021).

Based on the tests that have been done, there is a significant effect of knowledge before and after the cooperative learning intervention ($p < 0.05$). The bivariate analysis results for knowledge can be seen in Table 4. This condition is by research conducted by (Herlina *et al.*, 2021). After young women were given counselling on body image, they had better knowledge. This condition is reflected in the post-test value, which is better than the pre-test.

Based on the tests that have been done, knowledge has a significant effect on body image. Body image today is known as how people experience their self-manifestation, such as physical appearance characteristics, including physical functional competence and biological integrity (Laus *et al.*, 2014). To positively impact body image in young women, it is essential to explore the factors that influence body image and identify strategies that can be used to reduce body image disorders. This is by increasing adolescent girls' knowledge, especially about positive body image (Kerner *et al.*, 2018), which can positively affect healthy diets and lifestyles in adolescent girls in the future through increasing self-confidence and *self-esteem* (Tiggemann & Anderberg, 2020).

A person's attitude towards their body, also known as body image, significantly influences their mental and emotional well-being (Harris, 2006;

Mazurkiewicz *et al.*, 2021). The positive attitudes that exist in most respondents in this study show that adolescent girls tend to make efforts to constantly improve self-confidence, well-being, and overall quality of life, compared to negative attitudes that can cause dissatisfaction and mental well-being problems such as depression and eating disorders (Bellard *et al.*, 2022).

Healthy nutritional habits are essential for maintaining a healthy body weight and are associated with a positive body image (Baceviciene & Jankauskiene, 2021). However, most adolescent girls experience enormous psychological distress related to academic requirements, financial issues, issues related to social support, body image issues, and health-related lifestyles; most of them will perform specific actions to be able to fulfil the body image they want and desire which will later be related to the fulfilment of their nutrition.

The results stated that adolescent girls' attitudes had no significant difference before and after the intervention ($p > 0.05$). This condition occurs because, at the beginning, the respondent has a good body image attitude value, and at the end of the intervention. Young women often have a wrong view of their bodies; young women want an ideal body shape (Yusinta & Adriyanto, 2018). Body image problems can be divided into body image and attitude knowledge issues (Cash, 2011).

The knowledge dimension of body image refers to impaired perception of one's body. The attitudinal dimension refers to the affective, behavioural, and cognitive components of one's relationship with one's body (Gardner, 2011; Hamamoto *et al.*, 2022). As a result of young women's dissatisfaction with their body shapes, one of them is low self-confidence (Ifdil *et al.*, 2017); however, this condition does not apply to respondents who became a study this time. This is under anthropological measurements based on height and weight, showing that most respondents already have a medium and ideal body shape.

The attitude of respondents in this study has shown good conditions. It is positive, especially in aspects of their self-esteem, social acceptance, physical appearance, and body abilities that have created body positivity. Based on research conducted by (Rekkers *et al.*, 2022), with a good level of attitude towards adolescent girls' body image, young women will reduce various negative attitudes towards their health and body benefits such as skipping meals, picky eating habits, excessive diet and exercise behaviour, and other habits.

However, various conditions related to the body image attitude of young women at this time need to

be monitored. The results of previous research by (Nomate *et al.*, 2017) showed that although adolescent girls have ideal body shapes and positive body image attitudes, they tend to feel more significant than their actual size. This puts most respondents at risk of having an attitude to lose weight in unhealthy ways, including consuming slimming products, doing excessive exercise, and following a diet that limits energy consumption (fats and carbohydrates) (Dianningrum & Satwika, 2021).

5 CONCLUSIONS

The research was conducted in Ganjar Agung Village, West Metro District, Metro City, Lampung on August 27, 2023. The respondents were 25 young women domiciled in Ganjar Agung Village, Metro Barat District. The test results showed a significant effect on respondents' knowledge ($p < 0.05$) after the cooperative learning intervention. However, there was no significant difference in body image attitude ($p > 0.05$) before and after the intervention. This is because respondents have had a good body image attitude since the beginning of the intervention. There is an effect of nutrition education using cooperative learning on knowledge about body image, while it has no effect on attitudes about body image in adolescent girls. Based on these results, it is important to educate more deeply about body image in adolescent girls such as counselling to create optimal nutritional status.

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REFERENCES

- Abdelaziz, SB., Youssef, MRL., Sedrak, AS., & Labib, JR (2015). Nutritional Status and Dietary Habits of School Children in Beni-Suef Governorate, Egypt. *Food And Nutrition Sciences*, 6(1):54-63.
- Astuti, C., Majid, R., & Prasetya, F (2022). Chronic Energy Deficiency in Women from Muna District: Association with Body Image and Knowledge. *Diversity: Disease Preventive of Research Integrity*, 2(2):76-83.
- Baceviciene, M., & Jankauskiene, R (2021). Changes In Sociocultural Attitudes Towards Appearance, Body Image, Eating Attitudes and Behaviours, Physical Activity, And Quality Of Life In Students Before And During Covid-19 Lockdown. *Appetite*, 166, 105452.
- Bellard, A., Urgesi, C., & Cazzato, V (2022). Self-Body Recognition and Attitudes Towards Body Image in Younger and Older Women. *Archives Of Women's Mental Health*, 25(1):107-119.
- Bharthi, K., Ghritlahre, MDS., & Bose, K (2017). Nutritional Status Among Children and Adolescents Aged 6-18 Years of Kolam Tribe Of Andhra Pradesh, India. *Anthropological Review*, 80(2):153-163
- Budiarti, R (2011). Application of the Student *Teams Achievement Division (STAD)* Cooperative Learning Method to Improve Student Concept Understanding on the Subject of Food Digestion System Class XI IPA MAN Sukoharjo. FKIP Universitas Sebelas Maret. Surakarta.
- Cash TF. (2011). Crucial Considerations in The Assessment of Body Image. In *Body Image: A Handbook of Science, Practice, And Prevention*, 2nd Ed (pp. 129-137). The Guilford Press.
- Destiara, F., Hariyanto, T (2017). The relationship between body mass index (BMI) and body image of young women in Sanggau Malang girls' dormitory. *Nursing News: Scientific Journal of Nursing*, 2(3):31-37
- Dewi, GK., & Adriyanti, EZ (2020). The relationship between body image and diet on the nutritional status of adolescent girls at Tunas Medika Health Analyst Vocational School. *Journal of Health Food and Nutrition Binawan University*, 1(1):11-17.
- Dianningrum SW., & Satwika, YW (2021). *The relationship between body image and self-confidence in adolescent girls*. 8(7):194-203
- Gardner, R (2011). Perceptual Measures of Body Image for Adolescents and Adults. In *Body Image: A Handbook of Science, Practice, And Prevention* (pp. 146-153).
- Hadisaputro, S (2011). Managerial Epidemiology. Diponegoro University Publishing Board. Semarang.
- Harris, SM (2006). Body Image Attitudes, Physical Attributes and Disturbed Eating Among African American College Women. *Race, Gender & Class*, 13(1/2):46-58.
- Hamamoto, Y., Suzuki, S., & Sugiura, M (2022). Two Components of Body-Image Disturbance Are Differentially Associated with Distinct Eating Disorder Characteristics in Healthy Young Women. *Plos One*, 17(1), E0262513.
- Iffdil, I., Denich, AU., & Ilyas, A (2017). Hubungan Body Image Dengan Kepercayaan Diri Remaja Putri. *Jurnal Kajian Bimbingan Dan Konseling*, 2(3):107-113.
- Kementerian Kesehatan RI (2022). Hasil Survey Status Gizi Indonesia (SSGI) 2021. Kementerian RI. Jakarta.
- Kerner, C., Haerens, L., & Kirk, D (2018). Understanding Body Image in Physical Education: Current Knowledge and Future Directions. *European Physical Education Review*, 24(2): 255-265.
- Laus MF., Kakeshita, I. S., Costa, T. M. B., Ferreira, M. E. C., Fortes, L. De S., & Almeida, S. S (2014). Body

- Image In Brazil: Recent Advances in The State of Knowledge and Methodological Issues. *Revista De Saúde Pública*, 48:331–346.
- Mariamah. (2012). Keefektifan Pembelajaran Kooperatif Tipe Student Teams Achievement Division (STAD) Dan Number Head Together (Nht) Ditinjau Pada Aspek Prestasi Dan Motivasi Belajar Matematika Siswa Sma Negeri 1 Palibelo Bima. *J-MPM*. 2(1):122 -134
- Margiyanti, N. J (2021). Analisis Tingkat Pengetahuan, Body Image Dan Pola Makan Terhadap Status Gizi Remaja Putri. *Jurnal Akademika Baiturrahim Jambi*, 10(1):231-237
- Mazurkiewicz N, Krefta J, Lipowska M. Attitudes Towards Appearance and Body-Related Stigma Among Young Women with Obesity and Psoriasis. *Front Psychiatry*. 2021 Nov 11; 12: 788439. doi: 10.3389/fpsy.2021.788439. PMID: 34858238; PMCID: PMC8631861.
- Nomate ES., Nur ML., & Toy SM (2017). Hubungan Teman Sebaya, Citra Tubuh Dan Pola Konsumsi Dengan Status Gizi Remaja Putri. *Unnes Journal of Public Health*, 6(3):51-57.
- P2ptm, D (2018). *Apakah Berat Badan Anda Sudah Ideal? Berikut Ini Tabel Berat Badan Yang Disarankan Untuk Wanita*. Direktorat P2ptm. <https://P2ptm.Kemkes.Go.Id/Infographic-P2ptm/Obesitas/Page/14/Apakah-Berat-Badan-Anda-Sudah-Ideal-Berikut-Ini-Tabel-Berat-Badan-Yang-Disarankan-Untuk-Wanita> [Retrieved October 3 2023]
- Rekkers ME., Aardenburg L., Scheffers M., Van Elburg, AA., & Van Busschbach, JT (2022). Shifting The Focus: A Pilot Study on The Effects of Positive Body Exposure on Body Satisfaction, Body Attitude, Eating Pathology and Depressive Symptoms in Female Patients with Eating Disorders. *International Journal of Environmental Research and Public Health*, 19(18), 11794.
- Susetyowati (2016). Ilmu Gizi: Gizi Remaja. Penerbit Buku Kedokteran EGC. Jakarta.
- Tiggemann, M., & Anderberg, I (2020). Social Media Is Not Real: The Effect Of ‘Instagram Vs Reality’ Images on Women’s Social Comparison and Body Image. *New Media & Society*, 22(12), 2183–2199.
- Yunita, FA., Hardiningsih, H., Yuneta, AEN., Sulaeman, ES., & Ada’, YR (2020). Hubungan Pola Diet Remaja Dengan Status Gizi. *Placentum: Jurnal Ilmiah Kesehatan Dan Aplikasinya*, 8(2):27-32
- Yusinth, AN., & Adriyanto, A (2018). Hubungan Antara Perilaku Makan Dan Citra Tubuh Dengan Status Gizi Remaja Putri Usia 15-18 Tahun. *Amerta Nutrition*, 2(2):147-154