

The Correlation Between Obesity and the Self-Image of Teenage Girls in Denpasar

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ABSTRACT

In adolescence, the teenage girl begins to pay attention to physical appearance and wants to be close to their ideal concept of beauty, such as a slim body. The inability to appear according to the ideal concept of beauty in teenage girls with obesity causes self-image disorders. This study aims to determine the correlation between obesity and adolescent girls' self-image in Denpasar city. This study employed a correlation analysis with a cross-sectional approach. The sample in this study was 369 respondents. The sampling technique used was cluster sampling and simple random sampling. The data collection tool used was a self-image and percentile IMT questionnaire. Data analysis using chi-square test. Findings indicated that most teenage girls were not obese (72.1%), and most teenage girls had a positive self-image (96.2%). The statistical test shows $p < 0,001$, which means a significant correlation exists between obesity and teenage girls' self-image. A study revealed a significant link between obesity and self-image among adolescent girls, with obese girls experiencing negative self-perception. The study suggests that encouraging these young women to engage in activities they excel in, like exercise and singing, could help them discover their strengths and mitigate the psychosocial effects associated with body image. Additional intervention measures are necessary to explore and reduce the broader psychosocial impact beyond body perception.

Keywords: obesity; self-image; teenage girl

INTRODUCTION

This study aims to fill a research gap by investigating the multidimensionality of self-image and its relationship with weight change during adolescence in girls. Unlike previous studies that primarily focused on obesity and self-perception, this research explores different trajectories of weight status in relation to self-image, providing a more comprehensive understanding of the topic.

The topic's urgency lies in the significant public health concerns associated with obesity in children and adolescents, particularly among young girls. The increasing prevalence of overweight and obesity globally and in specific regions like Indonesia calls for immediate attention and intervention. Understanding the negative impact of obesity on self-image is crucial for addressing young women's psychological well-being and self-esteem.

Obesity, characterized by fat accumulation in adipose tissue, can lead to complications such as reduced cognitive function, shortness of breath, skin issues, high blood pressure, and diabetes mellitus (Lutfian et al., 2021). Obesity in children and adolescents is one of the most significant public health concerns in developed countries (Di Cesare et al., 2019). Overweight and obesity prevalence increases significantly among children and teenagers aged 5 to 19 (World Health Organization, 2021). Overweight prevalence increased from 4% to 18% in around 40 years (1975–2016), affecting girls and boys equally (Escrivá et al., 2021).

In Indonesia, obesity prevalence in children and young women is 8.0 % in the 5-12 year age group, 4.7% in the 13-15 year age group, and 4.9 % in the 16-18 year age group (Riskasdas, 2018). The frequency of obesity in kids and teens of different ages in Bali Province, particularly in Denpasar City, is the highest, second, and fourth highest in the world. The prevalence of the 5-12 year age group is 15.12 %, the 13-15 year age group is 12.36 %, and the 16-18 year age group is 13.98 %, according to these data (Riskasdas, 2018).

Childhood and early adolescent obesity have several well-documented detrimental effects on current and future health (Park et al., 2012). Obesity is a factor affecting young women's self-esteem since they value an attractive physical appearance with an ideal body shape and weight (Rachmawati, 2012). Low cognitive function, diabetes mellitus dyspnea,

hypertension, and skin rash are complications of obesity, which is a condition brought on by fat buildup in adipose tissue (Lutfian et al., 2021). Adolescents and children who are obese may also experience a variety of psychological comorbidities, such as emotional and behavioral difficulties, a propensity for anxiety, sadness, and low self-esteem (Quek et al., 2017).

The negative effects of obesity have a negative impact on self-image, which substantially impacts the growth of self-concept and self-esteem (D'Avila et al., 2019). Self-image is a mental picture of their own personality or the structured declarative knowledge of who they are that could influence how they behave in social situations. Self-image refers to how we evaluate our own psychological, emotional, and physical traits and the implications of our ego and social standing (Naz et al., 2019). It's crucial to have an accurate self-perception in order to understand one's own behavioral knowledge and attitude capabilities. Young women's incapacity to establish a physical appearance that conforms to the ideal concept of beauty leads to a negative self-image (Naz et al., 2019).

Dissatisfaction with one's appearance seems to be more of a norm than a rare occurrence. Self-hatred, feeling unattractive, always being envious of other people's physical shapes, and being afraid of receiving unfavorable feedback from others are all effects (Pribadi, 2019). The initial wave of studies examined obese and non-obese individuals primarily, and it clearly demonstrated a link between obesity and a poor sense of oneself. Women who are the right weight think their bodies are too large. Compared to women with the correct weight, obese women report having an even greater body image than they actually do (Urbańska & Dziurawiec, 2019).

Teenagers who were overweight or obese were more susceptible to low self-esteem (Gong et al., 2022). Study by (Shaluhiya, 2023) found significant effect between obesity and adolescents' physical self-image on junior high school in Kulon Progo. To our knowledge, no studies examined the multidimensionality of self-image while evaluating the relationship between weight change during adolescent girls. This study examined the different trajectories of weight status with gender and evaluated how they related to self-image.

METHOD

The research study was quantitative. This study's research design was applied, combining a cross-sectional method with correlation analysis. The research sites were one private high school and three public high schools in Denpasar City. It was conducted from 22 March to 12 April 2021. The population in this research were high school teenage girls in Denpasar City, with a sample size of 369 respondents who were taken using cluster and simple random sampling. A questionnaire was used to collect data, which was completed online. The researchers designed the questionnaire used in this study, and a specialist conducted the validity test known as face validity. The questionnaire is divided into two sections: obesity and adolescent girls' self-image. The obesity category was matched with the BMI percentile category for children and young women aged 2-20 years from the National Center for Health Statistics, as well as the self-image of young women using the Offer Self-Image Questionnaire-Revised (OSIQ-R) as a reference. The chi-square technique was used to analyze the data. This study received an ethical license from the Bali ITEKS Research Ethics Commission (No. 04.0246/KEPITEKES-BALI/III/2021).

RESULT

Observation of research subjects

The characteristics of respondents are shown in Table 1.

Table 1. Characteristics of Respondents in Teenage Girls in Denpasar City (n=369)

Characteristics	Frequency	Percentage
Grade		
X	227	61.5
XI	106	28.7
XII	36	9.8
Age (year)		
15	95	25.7
16	175	47.4
17	78	21.1
18	21	5.8

According to the survey findings, the class range for teenage girls was X-XII. Most of the teenage girls who participated in this survey in Denpasar City were in class X, accounting for 227 or 61.5%. The teenage girls in this study ranged from 15 to 18 years old. The majority of the young women in Denpasar City who took part in this study, 175 (47.4%), were 16. This finding suggests that the study primarily focused on adolescent girls in their mid to late teenage years, with a significant emphasis on those who were 16 years old. Studies have shown that late-onset or chronic overweight/obesity predicts low general, social, and academic/school-related self-esteem in early adolescence (Gong et al., 2022). Moreover, obesity is associated with negative somatic and psychological consequences and risks, including mental health problems (Förster et al., 2023).

Identification of teenage girls' self-image

The identification of the teenage girls' self-image in the respondents in this study is shown in Table 2.

Table 2. Frequency Distribution of Teenage Girls' Self-image in Denpasar City (n=369)

Self-image	Frequency	Percentage
Negative	14	3,8
Positive	355	96,2

The results above show that almost all teenage girls in Denpasar City have a positive self-image, as indicated by 355 teenage girls or 96.2%. Meanwhile, a small proportion of respondents, or 14 people (3.8%), have a negative self-image. These findings suggest that the majority of teenage girls in the city possess a favorable view of themselves, while a minority have a less positive self-perception. These findings suggest that the majority of teenage girls in the city possess a favorable view of themselves, while a minority have a less positive self-perception (Sarfika et al., 2023).

Studies have shown that the self-perception of overweight can trigger social rejection and lead to negative self-perception, behavioral problems, low self-esteem, negative body image, and poor academic performance (Robinson et al., 2020). Therefore, it is encouraging to see that the majority of teenage girls in Denpasar City have a positive self-image. However, it is important to note that the small proportion of teenage girls with a negative self-image should not be overlooked (Sarfika et al., 2023).

Characteristics of respondents based on obesity

The characteristics of respondents based on obesity in this study are shown in Table 3.

Table 3. Frequency Distribution of Teenage Girls' BMI Percentiles in Denpasar City (n=369)

BMI Percentile Category	Frequency	Percentage
Not obese	266	72,1
Obese	103	27,9

The analysis of the data reveals on Table 3 that the majority of young women in Denpasar City, specifically 72.1% or 266 individuals, have a BMI percentile that indicates they are not obese. On the other hand, 27.9% of the teenage girls in the study, amounting to 103 individuals, fall into the obesity BMI percentile category. These findings highlight the prevalence of obesity among a significant proportion of the participants and indicate the need for interventions and strategies to address obesity-related health concerns among adolescent girls in Denpasar City.

The prevalence of obesity among adolescent girls is a global public health concern, with studies showing that children with excess weight are more likely to be stigmatized and have psychosocial problems (Gong et al., 2022). The prevalence of obesity among adolescent girls varies across different regions and countries (Ayuningtyas et al., 2022; Mackawy & Alrasheedi, 2019; Sulistiadi et al., 2023).

The findings of this study suggest that obesity is a significant health concern among adolescent girls in Denpasar City and that interventions and strategies are needed to address this issue. Interventions and strategies aimed at addressing obesity-related health concerns among adolescent girls in Denpasar City can include promoting healthy eating habits, physical activity, and positive self-image, as well as addressing the social and emotional challenges associated with obesity (Gong et al., 2022; Suirakka et al., 2017).

The analysis results of the correlation between obesity and self-image in teenage girls

The scale of the variable data in this study is nominal. For this reason, data testing is carried out using Chi-Square. The test results are shown in Table 4.

Table 4. The Correlation between Obesity and Self-image of Adolescent Girls in Denpasar City (n=369)

BMI percentile	Self-image		p-value*
	Negative f (%)	Positive f (%)	
Obesity			
Not obese	4 (1.5)	262 (98.5)	<0.001
Obese	10 (9.7)	93 (90.3)	

*Chi-Square

Table 4 shows the analysis of the relationship between obesity and the self-image of adolescent girls in Denpasar City, revealing interesting findings. Among the teenage girls who were not obese (266 individuals), a significant majority, specifically 98.5%, reported having a positive self-image. On the other hand, among the teenage girls with obesity (103 individuals), 90.3% had a positive self-image. The comparison suggests that obese teenage girls have a lower positive self-image percentage than their non-obese counterparts.

Furthermore, the statistical analysis using a non-parametric test (Chi-Square) resulted in a p-value of <0.001, indicating a significant relationship between obesity and the self-image of adolescent girls in Denpasar City. This finding supports the acceptance of the alternative hypothesis (Ha), indicating that there is indeed a notable association between obesity and self-image among these young women.

The self-perception of being overweight triggers social rejection and can lead to negative self-perception, behavioral problems, low self-esteem, negative body image, and poor academic performance (Robinson et al., 2020). Late-onset or chronic overweight/obesity predicts low general, social, and academic/school-related self-esteem (Gong et al., 2022). Moreover, the study found a very small but significant positive association between mental health and childhood obesity after accounting for confounding variables (Beynon, 2023).

DISCUSSION

The self-image of teenage girls in Denpasar City

According to the study's findings, the majority of the 355 respondents (96.2%) had a favorable perception of themselves. Teenagers will have greater self-awareness, pay more attention to their body images, and young ladies will show this attention more clearly. Disorders of self-concept, such as disorders of body image (self-image) and self-esteem, are psychological problems that frequently coexist with obesity (Hurlock, 2014). Self-concept influences one's body image so as not to avoid undesirable appearances, which might help one develop. A person has body-image satisfaction if they are aware of themselves and have a positive self-concept when it comes to how they see their physical appearance (Cade et al., 2018).

Self-concept is all of individual's ideas, thoughts, beliefs, and conviction about themselves and how they interact with other make up their self-concept (Tus, 2020). According to (Hurlock, 2018), negative self-image will develop feelings of inadequacy and lack of confidence, thus growing poor personal and social adjustment. Relevant with the research conducted by (Amma et al., 2017) and (Wahyuni & Fahrudin, 2020) shows that self-image influences self-confidence, due to an increasingly positive self-image will generate positive self-esteem also so that individuals can do everything independently in acting and interacting with friends or society.

Study conducted by (Hidayah et al., 2015) found the opposite. The study found that most (68.6%) respondents had a negative self-image. Negative self-image because in young women, obesity is a fairly serious problem. Teenage girls' desire to seem beautiful, which is typically understood as having a slim or slender and proportional figure, is a dream for them, resulting in a more negative teenage self-image in girls (Hidayah, Bari, & Bachtiar 2015).

Women generally reported being less satisfied with their body image than males, regardless of gender (Johnstone et al., 2018). Likewise, according to (Bacevičien et al., 2019) all sexes are unsatisfied, but women are disproportionately unhappy. Self-actualization knowledge is crucial since it aids in preventing and treating poor self-esteem in young women. If young women have a poor concept of self-actualization, it will affect their self-esteem (Prameswari et al., 2013). Health professionals have a vital role in boosting young women's knowledge. In this case, health practitioners serve as educators,

attempting to promote the value of self-actualization in terms of one's maturity and maturity. Individual self-confidence rises as a result of positive self-actualization (Prameswari et al., 2013).

Obesity in teenage girls in Denpasar City

The majority of this study's 266 (72.1%) participants were not obese. This result indicated body dissatisfaction are not always correlated in studies of obese women (Sarwer et al., 2015). Increased body image problems in this demographic appear to be tied to specific factors like stigmatizing encounters or weight-related taunting (Puhl & Heuer, 2019). This study's findings are remarkably similar to those of (Setiawati et al., 2019), the majority of the adolescents in their study had normal nutrition (72.7%). Nutritional adequacy satisfies nutritional needs where responders have better or greater activity habits, resulting in a normal nutritional state.

The results of this study align with Field's research (Syahfitri et al., 2017) at SMP Negeri 13 Pekanbaru that 33% of students who are overweight and obese are aged 13-16 years. Armi and Dwipayana (2018) discovered the opposite in their research. The majority of responders (61.5 %) were obese, according to the survey. Obesity is increasingly common in cities and urban regions as income and population rise, resulting in a more diversified diet with a higher proportion of fat intake. Due to the increased use of transportation and mechanized technology, it also discovered a need for physical exercise (Dwipayana, 2018). The degree of the obesity is also important (Skinner et al., 2015). Study by found that all cardiometabolic risk variables rose as the severity of adolescent obesity increased in a large-scale (Skinner & Skelton, 2014).

Factors that influence the occurrence of obesity in adolescents are poor diet and the influence of social ecology (Ruiz et al., 2020). Social ecological influences are influential because adolescence is a time of social change, namely an increase in autonomy in choosing what one likes, resulting in the formation of eating habits (Wroblewski et al., 2018). Obesity knowledge is critical for adolescent girls' obesity prevention and treatment. Obesity will have a psychological impact on young women if they do not have awareness of it. The psychological impact is a loss of self-confidence and the establishment of a negative self-perception (Wulandari, Arifianto, & Aini, 2016). Study by (Byth et al., 2022) discover that negative shocks have a detrimental impact on self-image, which then results in significant weight gain due to increased food intake and decreased activity. Negative shocks were found to have greater effects on women and those with lower levels of education.

The correlation between obesity and self-image of teenage girls in Denpasar City

According to the data analysis findings, there was a substantial correlation between obesity and teenage girls' self-image. It is generally accepted that self-image is negatively connected obesity, inevitably results in low self-esteem (Dale et al., 2019), Study in Egypt revealed overweight and obesity affect more than a quarter of young people. Adolescents who are obese typically have lower self-image (Mohammed et al., 2019). When normal-weight and obese people were compared on their body images scores, it was found that the latter group, particularly women, had higher levels of body dissatisfaction (Weinberger et al., 2017).

This study supports the findings of (Lestari et al., 2021) and (Shaluhya, 2022) revealed a significant relationship between adolescent obesity and students' image of their bodies. Body image and obesity were found to be significantly correlated, as were gender and obesity. Relevant with (Pertiwi et al., 2020), there is a considerable relationship between gender and obesity in teenagers, and body image scores differ significantly between the obese and non-obese group, as well as between male and female students.

Obese teenage girls are psychologically disturbed because they feel empty, lonely, hate themselves, blame themselves, and are unable to cope with stress. Habibah and Dewi's (2019) explanation of features of self-image, which includes the sense of one's appearance and bodily parts that might elicit positive or negative emotions, supports this opinion. Because adolescent females with obesity have trouble adjusting to peers, social variables have an impact on their self-image. This viewpoint is shared (Normate et al., 2017) who claim that the social environment influences the development of adolescent females' self-image. Young women are under pressure from society to adapt to their surroundings.

Some authors view the high frequency of body dissatisfaction in girls as "normative" given the literature's descriptions of its great prevalence (Miranda et al., 2014). Even when eutrophic or underweight, these scientists found that female teenagers tend to feel abnormally overweight, which marred their perspective of their own bodies (Jones et al., 2014). Our data support this insight by demonstrating that overweight teenagers were less satisfied with their body image

CONCLUSION

Obesity and adolescent girls' self-image have a substantial association, according to the findings of this study. According to the findings, obese adolescent girls still have a negative self-image. It is intended that by harnessing their talents and hobbies, such as exercising, singing, and other accomplishments, these young women can explore their strengths. Several intervention measures are needed to investigate and minimize the correlation of various psychosocial effects outside of body self-image anthropometry.

This study has limitations due to its cross-sectional design, limited generalizability, small sample size, and reliance on self-report measures. Future research should utilize longitudinal designs, larger samples, objective measurements, and diverse assessment tools to overcome these limitations and gain deeper insights into the relationship between obesity and self-image in adolescent girls. The study highlights a significant association between obesity and negative self-image, emphasizing the need to address the psychological well-being of this population. Promoting talents and hobbies may improve self-image, but interventions should also target broader psychosocial effects. Future research and interventions should aim to identify and minimize the various psychosocial factors influencing self-image in obese adolescent girls, leading to comprehensive support and positive outcomes.

LIMITATIONS

This study has four limitations. First, the results are sample-specific and cannot be generalized to all patients. Second, the sample consisted of patients from only two hospitals. Third, we could not assess the effect of nursing interventions on sleep quality because the nurses of the hospitals need to perform interventions to improve their patient's sleep quality. Fourth, we could not assess the effect of prolonged hospitalization on sleep quality because we collected data only for three days.

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