



Quality of Life, Social Support, and Physical Activity of Overweight Adolescents

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ABSTRACT

Adolescent health and well-being must be at the center of efforts to achieve the Sustainable Development Goals (SDGs) adopted by the World Health Organization in 2030. A solution is needed by first looking at the quality of life of overweight adolescents, their social support, and their physical activity behavior to suggest health interventions for overweight adolescents. This study contributed to test there is a significant difference in the level of involvement in participants' social support and physical activity with the quality of life. The method uses a quantitative, cross-sectional design. The sample is 80 overweight adolescents (13-19 years). The data was measured through a questionnaire tested for validity with a value of 0.9. The sample was selected using the purposive sampling method according to the inclusion criteria and data analysis using frequency and percentage. The result of this study is the majority of overweight adolescents have a low quality of life, good social support, and low physical activity.

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1. INTRODUCTION

The research background is that adolescent health and well-being must be at the center of efforts to achieve the Sustainable Development Goals (SDGs) espoused by the World Health Organization by 2030. Countries can only develop and prosper if they invest in early childhood and adolescents and optimize support during their formative years so that for future health by using the lifelong approach [1]. With this in mind, improving adolescent health can no longer be considered solely a matter of concern by the health sector. Policies, services, and information must be implemented as part of a whole of government and whole-of-society solutions and be accessible to adolescents [2].

On the other hand, adolescent health is sometimes not considered by all sectors. Adolescents who are still in school will usually get attention from their school, but during the Covid 19 pandemic that is attacking the whole world, changes in learning methods that are carried out online have reduced school attention to adolescent health [3]. After switching to online classes due to COVID-19, the biggest concern is that teenagers are leading to excessive Internet immersion and addiction [4]. There is also an assumption that many long-standing adolescent health problems have improved, but new issues related to NCD risk have emerged and should be a key focus for policy action, such as traffic accidents, fights, and a sedentary lifestyle that can lead to overweight or overweight, resulting in disease complications and death [5]. In fact, adolescent health problems can actually be prevented, reversible, and overcome early if there is a high awareness of adolescent health.

One of the problems in adolescents that can be prevented and corrected is being overweight. The burden of overweight and obesity in children and adolescents has increased, especially in developing countries, posing a significant health challenge[6]. Overweight estimates by group The UNICEF/WHO/WB Joint Child Malnutrition Estimates (JME) releases new data for 2021, point estimate of overweight proportion in 2000 (4.0%), 2021 (11.1%). According to a data

survey by Kementerian Kesehatan Republik Indonesia (2018), the rate of overweight adolescents increased from 2007: 18.8 %, in the year 2013: 26.6% and in the year 2018, 31.0%. This percentage increased 4,4 % in the year 2023 and 12,2 % in 11 years later. The percentage of overweight adolescents in the province of Yogyakarta from 2020 to 2022 is 1% higher than the national average. The total number of adolescents who were overweight at the time of the health survey in the Yogyakarta area was 99 adolescents out of a total of 950 adolescents who were weighed or about 10.42%. Indicate a high prevalence of childhood overweight and obesity in the world [7]. This requires serious attention from the government so that cases of overweight in adolescents will not increase.

Related work from previous research is as follows regarding the School Health Nursing Program through the prevention and control of overweight/obesity in adolescents. This research was effectively carried out in schools, but the program has not been fully implemented due to changes in learning methods due to the Covid 19 pandemic that has swept the world, requiring learning to be carried out online so that school-age youth spend more time at home[8]. The Covid-19 pandemic has changed many things, one of which is the increasing number of teenagers in society because of online learning, and some of their activities and work are also carried out online. A number of adolescents lost access to school-based health services and special services for nutrition programs, so they are at greater risk of widening the educational gap due to a lack of support and resources for distance learning, especially the lack of family support [9].

The contribution of research explains how the quality of life, social support, and physical activity of adolescents who are overweight.

2. METHODS

This method used the quantitative approach, a descriptive-correlational research design meant to measure and correlate the adolescents' quality of life, social support, and physical activity with the participants' demographic profile. This study included two sets of participants: adolescent participants aged 13 to 19 years in 2022 and parent participants aged less than 60 years totaling 80 people. A non-probability sampling technique was used to collect data from adolescents and parents. Data derived from nonprobability sampling can contribute to cumulative scientific efforts to pinpoint reasonable intervals for the parameters of interest and represent some of the characteristics that the researcher is trying to study [10]. Inclusion criteria of adolescent participant: *Adolescent participant* (Adolescent aged 13 – 19 years, Adolescent living in the Yogyakarta region, Indonesia, Adolescent with a BMI value of 25 Kg/m² - 29.9 Kg/m² and above). *Parent participants* (Parents of adolescents whose age < 60 years, Parents who have adolescent children aged 13-19 years, and Participants who expressed a willingness to participate in the study and signed the informed consent).

Instrument *adolescent quality of life* consists of a total mean score derived from three variable item questions: happiness (was measured using the OHQ from Hills, 2002 [11] contains 29 items, with a score of validity and reliability is 0,91), self-esteem from Rosenberg 2007, with a score of validity and reliability is 0,84 [12], and self-reported health complaints were adopted from Ravens-Sieberer, et al. 2008 with a score of validity and reliability is 0,84 [13]. Instrument Social Support adopted from Rand, 2022. with a score of validity and reliability is 0,91 [14]. The physical activity questionnaire adopted from WHO (GPAQ V2) with a score of validity and reliability is 0,81 [15].

3. RESULTS AND DISCUSSION

Table 1. Frequency and Percentage Distribution of the Adolescent Participants Grouped According to Age Range

Age Range	Frequency	Percentage
13 to 16 years	22	27.50
17 to 19 years	58	72.50
Total	80	100.00

Table 1 showed that most of the participants were 17-19 years old and were categorized as late adolescents with a total of 58 or 72.50%, and 22 or 27.50% of adolescent age range 13 to 16 years old. Adolescents with ages range from 17 to 19, including the category of late adolescence.

The characteristics of late adolescence are adolescent awareness of inequality, ways of responding to inequality, and what underlies adolescent responses. Health workers need to be better at paying attention to the different ways young people conceptualize and respond to inequalities and by targeting the personal and contextual factors that inform the processes of change that occur [16].

Table 2. Level of Total Quality of Life

Level of Total Quality of Life	Frequency	Percentage
Good Quality of life	12	15.00
Low Quality of life	68	85.00
Total	80	100.00

Table 2 shows the total quality of life of the adolescent participants. As seen, the majority, or 85% of the participants, have a low quality of life, while 12, or 15%, have a good quality of life. Based on the computed mean of the two indicators, which is 59.15, indicates that the participants have a low quality of life. Moreover, the low quality of life of the participants is also marked by low levels of happiness, self-esteem, and high health complaints.

Previous research on the determinants of teenagers' quality of life found that demographic factors such as age are major predictors of quality of life. However, the findings of this study are consistent with those of the quality of life of adolescents is often low; apart from being overweight, it is also due to the complexity of analyzing the adverse effects of socio-economic difficulties [17]. The findings of other studies indicate that adolescent psychiatric symptoms and the incidence of obesity play an important role in the quality of life function of obese adolescents [24].

Table 3. Category of Total Social Support

Total Social Support of Parents	Frequency	Percentage
Good support	43	53.75
Low support	37	46.25
Total	80	100.0

Table 3 shows the total parents' social support. As shown, the majority, or 53.75 %, receive good emotional support from their parents, while 46.25 % receive low emotional support. Other research also states that parental authority and parental support are very important for adolescents. Parental authority refers to the parent's ability to set rules and expectations for their children and to enforce those rules. Parental support refers to the parent's emotional availability and willingness to provide their children with love, guidance, and help. Both parental authority and parental support are important for adolescents' development. Parental authority helps adolescents to learn how to follow the rules and make responsible decisions. Parental support helps adolescents to feel loved, accepted, and valued [18]. Studies have shown that adolescents who have high levels of parental authority and parental support are more likely to have positive outcomes, such as good academic achievement, healthy relationships, and low levels of risky behavior. Family support can play a significant role in reducing overweight and obesity. Families can provide support in a number of ways, including: Modeling healthy eating and physical activity habits. Children are more likely to adopt healthy habits if they see their parents and other family members doing the same. Encouraging healthy choices. Family members can encourage each other to make healthy choices about food and exercise. Providing emotional support. Losing weight can be challenging, and family members can provide emotional support to help each other stay on track. Helping to create a healthy environment. Families can make their home environment more conducive to healthy eating and physical activity by stocking healthy foods, providing opportunities for physical activity, and limiting screen time [25].

Table 4. Category of Physical Activity

No	Category Physical Activity	Mean of Metabolic rate per minute (MET)	Frequency	Percentage
1.	Activity at School/Home/Work:	1680 MET		
	High activity		12	15.00
	Moderate Activity		9	11.25
	Low activity		59	73.75
	Total		80	100.00
2.	Activity Traveling:	262 MET		
	Moderate Activity		11	13.75
	Low activity		69	86.25
	Total		80	100.00
3.	Recreational Activity:	619 MET		
	High activity		1	1.25
	Moderate Activity		28	35.00
	Low activity		51	63.75
	Total		80	100.00
4.	Sedentary Activity:	305 MET		
	Moderate Activity		4	5.00
	Low activity		76	95.00
	Total		80	100.00
5.	Total Physical Activity:	2562 MET		
	High Physical activity		14	17.50
	Moderate Physical activity		46	57.50
	Low Physical activity		20	25.00
	Total		80	100.00

Table 4 shows the percentage of adolescents who reported low activity at school/home/work. The table shows that 73.75% of adolescents reported low activity at school/home/work. This means that more than three-quarters of adolescents reported being inactive in these settings. The high percentage of low activity is concerning, as it is associated with a number of health risks, including obesity, heart disease, and diabetes. School health programs can also help to change the school environment to be more supportive of physical activity. This can include things like making sure that

the school grounds are safe and accessible for physical activity. Providing access to healthy foods and drinks in the school cafeteria. Encouraging teachers and staff to be role models for physical activity [26].

Table 4 shows the percentage of adolescents who reported low activity in traveling activity. The table shows that 86.25% of adolescents reported low activity at traveling activity. There are a number of reasons why adolescents may not be physically active when traveling. One reason is that they may rely on cars or other motorized transportation. Another reason is that they may spend more time indoors, watching TV or playing video games. Additionally, adolescents may not have access to safe and supportive environments for physical activity. The association of activity traveling types with physical activity (PA) differed by gender, age, living environment, parental educational level, and occupation. This suggests that the effectiveness of active travel to school (ATS) in increasing PA may vary depending on individual and parental characteristics [27]. For example, studies have shown that boys are more likely to be physically active than girls, even when they travel to school in the same way. This suggests that other factors, such as gender norms, may also play a role in determining the association between ATS and PA.

Table 4 shows the percentage of adolescents who reported low activity in recreation. The table shows that 63.75% of adolescents reported low at recreation activity. Adolescence is a time of rapid growth and development, both physically and emotionally. During this time, it is important for adolescents to be physically active. However, many adolescents are not getting enough physical activity, especially when it comes to recreation activities. Other research states that there is a significant difference between increased participation time in physical recreational activities and adolescent attitudes toward violent behavior. In addition, as the duration of weekly recreational physical activity increased, it was determined that the average attitude toward violence decreased [28].

Table 4 shows the percentage of adolescents who reported low sedentary activity. The table shows that 95.00 % of adolescents reported low sedentary activity. Sedentary activity is any activity that does not require much energy expenditure. This includes activities such as sitting, lying down, watching TV, playing video games, and using the computer. Adolescence is a time when many people become more sedentary. This is due to a number of factors, including Increased time spent in school and studying, Increased use of electronic devices, Changes in social interactions, and Decreased opportunities for physical activity. Other research states that maturity in physical activity is related to sedentary behavior during adolescence. The older the teenager, the less sedentary activity [29].

It is important for adolescents to be active in order to stay healthy and reduce their risk of developing these health problems. There are a number of things that can be done to encourage adolescents to be more active. Parents, schools, and communities can all play a role in promoting physical activity among adolescents. Parents can encourage their children to be active by providing them with opportunities to play sports and go for walks or bike rides. Schools can make physical education a priority and provide students with access to safe and well-maintained playgrounds. Communities can create parks and recreation centers that are welcoming to adolescents.

By taking these steps, we can help to reduce the number of adolescents who are inactive and improve their overall health. The decline in PA during adolescence is a consistent finding in the literature. This is concerning, as physical activity (PA) is essential for healthy adolescence and adulthood. PA can help to reduce the risk of chronic diseases, improve mental health, and boost academic performance. There are a number of factors that contribute to the decline in PA during adolescence, including Increased screen time: Adolescents are spending more time than ever before on electronic devices, such as smartphones, computers, and televisions [20]. This sedentary behavior can displace PA. Shifting priorities: Adolescents are facing a number of new priorities during this time, such as school, social relationships, and part-time jobs.

These priorities can make it difficult to find time for PA. Changing body image: Adolescents are often concerned about their body image, and this can lead to them avoiding PA. There are a number of PA interventions that can be developed to address the decline in PA during adolescence. These interventions can focus on education, family programs, behavioral change, environmental changes, or policy changes. Education: PA interventions can educate adolescents about the importance of PA and the benefits of being active. This can be done through school programs, community-based programs, or online resources. Family programs: PA interventions can involve families in helping their adolescents to be more active. This can include providing families with information about PA, helping them to create a supportive home environment for PA, and providing them with resources to help their adolescents to be more active. Behavioral change: PA interventions can focus on helping adolescents to change their behavior and become more active. This can include setting goals, providing support, and tracking progress[19].

Psychological factors: These include motivation, self-efficacy, and attitude towards physical activity. People who are motivated to be active are more likely to do so, and those who believe in their ability to be active are more likely to succeed. Cognitive factors: These include knowledge and understanding of the benefits of physical activity. People who are aware of the benefits of being active are more likely to make it a priority in their lives. Physical factors: These include motor skills and physical fitness. People with good motor skills are more likely to enjoy physical activity, and those who are physically fit are more likely to be able to do the activities they enjoy. Social and relational factors: Family: Family members can provide support and encouragement for physical activity. They can also model healthy behaviors, such as walking or biking instead of driving. Friends: Friends can also provide support and encouragement for physical activity. They can make it more fun to be active, and they can help to create a social norm of being active. Significant others: Significant others, such as spouses, partners, or romantic interests, can also provide support and encouragement for physical activity. They can help to make it a priority in the relationship, and they can provide companionship and support during physical activity [20].

Environmental changes: PA interventions can focus on making changes to the environment to make it easier for adolescents to be active. This can include creating safe and accessible places to be active, providing transportation to and from activity locations, and offering incentives for being active. Policy changes: PA interventions can focus on changing policies to make it easier for adolescents to be active. This can include increasing the amount of physical education in schools, providing funding for community-based PA programs, and making it easier for adolescents to get to and from activity locations. By developing PA interventions that address the factors contributing to the decline in PA during adolescence, we can help ensure that adolescents are active and healthy [21]. The results in this study are also the same as the opinion of other studies that the importance of the motivational process for the performance of physical activity and sports is a precursor to psychosocial change and sustaining significant changes over time [22]. However, there is no significant difference between the variable level of physical activity and quality of life in overweight adolescents [23].

4. CONCLUSION

It is important for parents of obese adolescents to encourage them to be physically active. Even moderate levels of physical activity can help to improve health and reduce the risk of chronic health problems. Parents can also help their adolescents to develop coping mechanisms for dealing with bullying or discrimination. By providing social support and encouraging physical activity, parents can help their obese adolescents to improve their quality of life.

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