

Nutritional Status and Physical Activity of Elementary Students in Bandung during the Covid-19 Pandemic

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ABSTRACTS

Introduction: During this Covid-19 pandemic, Exercising and doing physical activity is very necessary to keep the body in shape, but students tend to do a lot of sedentary behavior because they required to stay at home. Sedentary behavior and student health are interrelated because a dangerous sedentary lifestyle increases many diseases and deaths. This study aims to identify nutritional status and physical activity of elementary students in Bandung during the Covid-19 pandemic.

Methods: This study using correlational analytic with cross-sectional design. The data collection tools on this research using quisioner that divided into 2 parts. Subject research choosing based on inclusion criteria on this research are student that registered in dapodik data when the research was conducted, no suffer from chronic and congenital disease, and surely provide to be a respondent.

Results: The result of the variety analytics showed nutritional status of school-aged children and 84,2 % has normal body mass index and 72,6% has normal height. Based on table 3, 49 of student do sedentary activity and 46 do moderate, 43 of student do physical activity during sport session about one time, and 2 of them not doing it at all, 50 of student sitting on their spare time, 48 of student sitting on their school break, 43 of student do physical activity after school about 2-3 times, 62 student do physical activity in afternoon about 1-3 times, 39 of student do physical activity on weekends about one times, and their parent's perception about physical activity was 1-2 times do physical activity on spare time.

Conclusion: Most children have normal nutritional status, although most children behave sedentary. The results of this study are expected to be an awareness for parents and teachers to encourage children to do more physical activity because hildren who move a lot can avoid obesity and are more fit, especially during this Covid-19 pandemic..

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1. Introduction

In recent years, nutrition in Indonesian children has become a serious problem that often happens especially in urban areas. Eating habit has become a main cause of nutritional problems because people usually consume bulking food, high calories, fat, sugar, sodium, but less fiber and that eating habit happens often in student. Food that often consumed including snacks and junkfood which often add an additional chemical ingredients.

Based on Riskesdas 2018 data, in Indonesian children aged 5-12, nutritional status prevalence (BMI/Age) among others very thin as much as 2,4 %, 6,8 % thin, 70,8 % normal, 10,8% fat, and 9,2 % obese. Specifically, West Java children's nutritional status prevalence was 1,88 % very thin, 5,16 % thin, 71,59 % normal, 11,73% fat, 9,65 obese and nutritional status prevalence in Bandung is above the national average, which is Bandung's nutritional status prevalence was 0,47 % very thin, 4,56% thin, 74,98% normal, 7,98% obese but Bandung's fat status has a lot percentage than national average, which as much as 12,07%. Nutritional status influenced by several factors, and one of them was physical activity.

Excess calories causes by less physical activity will increase the risk of fat and obese, and on the other hand, physical activity that excess but not accordance with the appropriate intake can cause a teenager to be underweight and according to riskesdas 2018, Indonesian children above 10 years old has 66,5% enough and 33,5 less proportion of physical activity. Malnutrition can cause brain development work slowly because body can fight an infection and UNS/SCN (2005) said that death rate due to disease of infection in children 3-27 times bigger than children who has good nutrition status. according to the cases, malnutrition become a factor that risk of causing death in children.

There was a relationships between sedentary behaviours and student health. Behaviours are considered to be sedentary when combined with both low energy, like expenditure and a sitting, reclining or lying posture, active video gaming, or paper-based work at a standing desk that become a habit for students (Nicholas Kuzik, 2022). According to WHO (2002), the dangerous of sedentary lifestyles increase all causes of mortality, double the risk of cardiovascular diseases, diabetes, and obesity, and increase the risks of colon cancer, high blood pressure, osteoporosis, lipid disorders, depression and anxiety.

Research Purpose

This research aims to identify nutritional status and physical activity of elementary students in Bandung during the Covid-19 pandemic.

2. Materials and Methods

This research using correlational analytic with cross-sectional design. The data collection tools on this research using quisioner. Population in this research are elementary student in SD Mutiara Garuda Village, Andir Districts with total 95 upper class student (4,5,6 grades). Subject research choosing based on inclusion criteria on this research are student that registered in dapodik data when the research was conducted, no suffer from chronic and congenital disease, and surely provide to be a respondent meanwhile exclusion criteria are student that didn't collect complete quisioner.

Quisioner that using on this research divided into 2 parts. The first part consist characteristic of student (name, address, sex, age, parental education, parental occupation and family income level; second, related to question about nutritional status and physical activity data. Nutritional status can be known with high and weight meassurement that compared with aged of respondent. The physical activity data according to *International Physical Activity Questionnaire* (IPAQ).

3. Results and Discussion

This research involve 95 student among them are 44 boys and 51 girls with the characteristics as table 1 at SD Mutiara Garuda Village, Andir Districts.

Table 1. Characteristics of respondents

No.	Variables	Amount	percentage
1	Sex		
	- boys	44	46.3
	- girls	51	53.7
2	fathers' education		
	- elementary	13	13.7
	- junior high school	24	25.3
	- senior high school	54	56.8
	- bachelor	4	4.2
3	mothers' education		
	- elementary	20	21.1
	- junior high school	29	30.5
	- senior high school	41	43.2
	- graduate	4	4.2
	- post-graduate	1	1.1
4	fathers' occupation		
	- jobless	2	2.1
	- civil servant	3	3.2
	- entrepreneur	30	31.6
	- labor	46	48.4
	- others	14	14.7
5	mothers' occupation		
	- housewife	69	72.6
	- civil servant	2	2.1
	- entrepreneur	14	14.7
	- labor	6	6.3
	- others	4	4.2

The result of the variety analytics on characteristic show that most of student's fathers and mother education reach on senior high school, but there's also one of mother who reach post-graduate, and 4 of father reach bachelor. The most common at father's occupation was being a labor, and the most common at mother's occupation was being a housewife.

Table 2. Nutritional Status of School-aged children

No.	Indicators	amount	percentage
1	Body Mass Index for Age		
-	Underweight	10	10.5
-	Normal	80	84.2
-	Overweight	5	5.3
2	Height for Age		
-	Stunting	26	27.4
-	Normal	69	72.6

Table 3. Physical activity of School-aged children

Indicators	Amount	Percentage
Physical activity		
- Sedentary	49	51.6
- Moderate	46	48.4
physical activity during sport session	2	2.1
- not at all	10	10.5
- 1 time	43	45.3
- occasionally	15	15.8
- quite often	25	26.3
- Often		
Activity during free time		
- Sitting	50	52.6
- Standing or walking	6	6.3
- Running or a lil bit playing	14	14.7
- Running and playing	16	16.8
- Running and playing all the time	9	9.5
Activity during lunch break		
- Sitting		
- Standing or walking	48	50.5
- Running or a lil bit playing	10	10.5
- Running and playing	22	23.2
- Running and playing all the time	12	12.6
physical activity after school		
- not at all	12	12.6
- 1 time	30	31.6
- 2 or 3 times	43	45.3
- 4 times	3	3.2
- 5 times	7	7.4
Physical activity in the afternoon		
- not at all	22	23.2
- 1 time	31	32.6

Indicators	Amount	Percentage
- 2 or 3 times	31	32.6
- 4-5 times	4	4.2
- 6 times	7	7.4
Physical activity on weekends		
- not at all	9	9.5
- 1 time	39	41.1
- 2 or 3 times	37	38.9
- 4-5 times	7	7.4
- 6 times	3	3.2
Parents' perception about physical activity		
- All/almost all free time is spent on activities with little physical activity	9	9.5
- Sometimes (1-2 times) doing physical activity in their free times	49	51.6
- Often enough (3-4 times) doing physical activity	23	24.4
- Often (5-6 times) doing physical activity	6	6.3
- Very often (7 times or more) doing physical activity	8	8.4

The result of the variety analytics based on table 2 showed nutritional status of school-aged children and 84,2 % has normal body mass index and 72,6% has normal height. Based on table 3, 49 of student do sedentary activity and 46 do moderate, 43 of student do physical activity during sport session about one time, and 2 of them not doing it at all, 50 of student sitting on their spare time, 48 of student sitting on their school break, 43 of student do physical activity after school about 2-3 times, 62 student do physical activity in afternoon about 1-3 times, 39 of student do physical activity on weekends about one times, and their parent's perception about physical activity was 1-2 times do physical activity on spare time. There's a lot of physical activity's benefit, which improves general circulation, increases blood flow to the brain, and raises levels of norepinephrine and endorphins—all of which may reduce stress, improve mood, induce a calming effect and for student, those who doing physical activity often are likely to feel more connected to their school and community and want to challenge themselves. (Taras, 2005)

Physical activity is needed by teenagers to maintain ideal body weight and fitness (Fillah, 2014) and teenagers are advised to be able to do physical activities at home that are healthy and also useful, such as activities to make the bed, sweep, mop, gardening and sports that are often done by teenagers, like basketball, soccer, running, volleyball, swimming, jogging, cycling.(Dedeh Kurniasih, 2010). The more active a person doing physical activity, the more body spending energy and if excess energy intake is not balanced with balanced physical activity, adolescents are easy to experience excess energy and even obesity. On the other hand, if a person is active enough to do physical activity but ain't balanced with adequate energy intake, then the body also needs energy reserves taken from fat and muscle

mass so that the body will look thin. During physical activity, muscles need energy outside of metabolism to move, so the amount of energy needed depends on how much the muscle is moving, for how long and how hard it is to work. (Khasanah, 2016).

According to (Fitrian Rama Aditya, 2021) in (Leo Agung Prasetyo, 2022), during the COVID-19 pandemic, students had to make many lifestyle adjustments to maintain their physical fitness and if we see this phenomenon in a good way, pandemic has made students better in implementing healthy lifestyles such as using masks, maintaining cleanliness by regularly washing hands, and consuming balanced nutritious foods. Parent's maintaining a child's lifestyle during this pandemic can be done in many ways, one of which is by monitoring eating patterns and timing when eating (Maya Amaliyah, 2021) because one of the factors that affect the level of good nutritional status in students is the nutritional intake of students in the form of nutritious food (Heather A, 2018).

Even though students have run a healthy lifestyle well, it is not necessarily the student who pays attention to the nutritional intake they consume. Research conducted in Banjarbaru by Husin (2021) and Leo Agung Prasetyo (2022) who doing the same research supports this theory by showing the results of his research that there is no significant relationship between a healthy lifestyle and nutritional status.

The limitation of this study is only to identify or descriptive analysis of nutritional status and physical activity. In addition, this study was limited to one school only. This is because licensing is difficult to do during the pandemic, especially for child respondents. Follow-up studies on a larger population can provide a better picture of the nutritional status and physical activity of primary school children

4. Conclusions

This study shows that most children have normal nutritional status, although most children behave sedentary. Children spend more time on sitting activities when they have free time. However, most of them still do physical activity and play more or less once a day. The results of this study are expected to be an awareness for parents and teachers to encourage children to do more physical activity. Children who move a lot can avoid obesity and are more fit. Parents are advised to limit the use of gadgets or screentime, so as not to get used to a sedentary lifestyle.

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