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Research Article

Impact of the Covid-19 Pandemic on Changes in Weight, Consumption and Lifestyle in Indonesian Students

Laras Sitoayu^{1*}, Sarah Mardiyah², Vitria Melani³, Lintang Purwara Dewanti³, Putri Ronitawati¹, Sry Rizki Amelia¹, Rahmatia Risda¹

¹Dietitian Education Program, Faculty of Health Science, Universitas Esa Unggul, West Jakarta

²Faculty of Health, Universitas Mohammad Husni Thamrin, Jakarta

³Nutritional Science Study Program, Faculty of Health Science, Universitas Esa Unggul, West Jakarta

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*Corresponding author:

E-mail:

laras@esaunggul.ac.id

ABSTRACT

The Covid-19 pandemic that has hit various parts of the world, including Indonesia, has had an impact on society. One of the layers of society that has experienced this impact is students. With the large-scale social restrictions, Indonesian students do a lot of activities at home. Many students become concerned with themselves, but there are also students who feel bored because of low social interaction which in turn causes high food consumption and sedentary behaviour at home. The objective of this study to determine changes in body weight, food consumption and lifestyle in Indonesian students. The design of this study was cross sectional, with descriptive analysis conducted on 1185 students in Indonesia. The results of the study stated that the pandemic had an impact on Indonesian students. During the pandemic as many as 67.1% of students experienced changes in the size of their BB. Most of the students experienced moderate stress (77.1%), and bad sedentary behaviour by 63.4%. However, diet and exercise habits have changed for the better as much as 52.6% and 63.7%, respectively. Indonesian students need to pay more attention to changes in body weight and lifestyle during the pandemic so as not to have a negative impact on health and nutritional status.

Keywords: Indonesian Students, Impact Pandemic, lifestyle, weight

Introduction

Indonesia is one of the countries affected by the Covid-19 pandemic. Covid 19 (*corona virus disease*) is very deadly and easily transmitted. The high number of deaths and

illnesses due to contracting the virus has caused the Indonesian government to implement Pembatasan Sosial Berskala Besar (PSBB). With this rule, the community inevitably has to limit physical activity outside the

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home, including students and students who have to do online and distance learning (Siahaan, 2020).

Quarantine and PSBB can lead to changes in lifestyle, eating habits, triggering stress and anxiety, which in turn causes weight gain (Bo-lang et al., 2021). If this happens in the long term to students who are the nation's young generation, it can certainly result in poor nutritional status and health status.

The results of the study stated that the pandemic had an impact on increasing body weight every month. To overcome this, it is necessary to find ways to increase physical activity even at home, and pay attention to food (Lin et al., 2021). The results of a similar study stated that during the pandemic, the nutritional status of female students decreased by around 0.45 kg/m², while in male students there was an increase of about 0.5 kg/m², however, from all students there was a change in body weight where nutritional status was more and obesity became more, namely for nutritional status more than 11.5% to 25.4% and obesity from 3.4% to 5% (Pop, 2021).

This study tries to explore how changes in body weight, food consumption and lifestyle during the pandemic among university students represent all regions of Indonesia, including western, central and eastern Indonesia. In addition, it is also carried out on Indonesian

students from various levels of education, both in the health and non-health fields.

Methods

This research is a descriptive analysis with design cross sectional, in which factors that can be operationalized into variables are collected and found at the same time. This research was conducted using survey method online using Google Form, conducted on Indonesian students who are currently studying in Indonesia, which was carried out from April to September 2021.

The population in this study were all Indonesian students who were studying in Indonesia, with the technique sampling Snowball and obtained a sample of 1185 students. The instrument used in this study was questionnaire online including the identity of the respondent, a questionnaire on changes in body weight, breakfast habits, changes in eating patterns, and consumption of supplements. As for the lifestyle using a questionnaire of stress, sedentary behaviour and exercise habits.

Results and Discussion

Research was conducted on all Indonesian students *online*. From the results of data collection which took about 35 days, there were 1185 respondents. The following presents the results of univariate data analysis based on the results of the study.

Table 1 Characteristics of Respondents

Variabel	Changes in Weight n (%)	Unchanges Weight n (%)	Total n (%)
Gender			
Male	231 (19.5)	112 (9.5)	343 (28.9)
Female	564 (47.6)	278 (23.5)	842 (71.1)
Age			
Teen end	726 (61.23)	355 (30)	1081 (91.2)
Adults beginning	54 (4.6)	25 (2.1)	79 (6.7)
Adults end	12 (1)	9 (0.8)	21 (1.8)
Elderly	3 (0.3)	1 (0.1)	4 (0.3)
Educational Level			
Diploma	90 (7.6)	36 (3)	126 (10.6)
Bachelor/Professional	657 (55.4)	326 (27.5)	983 (83)
Master	40 (3.4)	25 (2.1)	65 (5.5)
Doctor	8 (0.7)	3 (0.3)	11 (0.9)

Variabel	Changes in Weight n (%)	Unchanges Weight n (%)	Total n (%)
Education			
Health	438 (37)	205 (17.3)	643 (54.3)
Non Health	357 (30.1)	185 (15.6)	185 (15.6)
Area of Residence			
WIB	701 (59.2)	344 (29)	1045 (88.2)
WITA	80 (6.8)	42 (3.5)	122 (10.3)
WIT	14 (1.2)	4 (0.3)	18 (1.5)

Indonesian students who were respondents in this study, most of them were in the western part of Indonesia, namely 88.2%, but there were also respondents who were in the central and eastern parts of Indonesia, respectively 10.3% and 1.5%. With the spread of respondents throughout Indonesia, it is hoped that they can represent the characteristics and problems related to weight changes in students in Indonesia. When the Covid-19 pandemic struck, it had a huge impact on the world of education. One of those affected by the learning method is students. This is a learning system in Indonesia, in all regions being *online* and limiting direct contact, as well as crowds in learning or known as distance learning. Students from any region in Indonesia are expected to be able to access and obtain maximum education with freedom of learning (Abidah, A; Hidayatullaah, H N; Simamora, R M; Fehabutar, D; Mutakinati, 2020).

The sex of the respondents was dominated by women, namely 71.1%, with the age being in the late teens group, which was 91.2%. Of course, this is interesting to study in relation to changes related to weight and nutrition that occurred during the COVID-19 pandemic. Research conducted by Bolang *et al.*, (2021) stated that the covid-19 pandemic caused changes in the nutritional status of students. From the results of his research, it was stated that male students had a higher average body weight during the Covid-19 pandemic than women, as well as their nutritional status. Increases in body weight and nutritional status are experienced by many late teens and young adults during the pandemic compared to before the pandemic (Huber et al., 2021). This is contrary to the results of this study, because changes in body weight are mostly experienced

by female students. The results of the study are in line stating that women experience more weight changes than men, because when bored at home they tend to consume a lot of staple foods and snacks (Mustofa, Festy Ladyani; Husna, Ismalia; Hermawan, Dessy; Langki, 2021).

Judging from the level of education, most of the respondents have undergraduate/professional education, which is 83%, however there are also respondents who are currently pursuing doctoral education, which is 0.9%. As for the education sector, the proportions are almost the same between the sector health, namely 54.3% and non-health 45.7%. Based on these data, it can be seen that both students with health and non-health fields have almost the same proportion to experience changes in body weight, either good or down. Some students care about what they eat so they pay attention to their diet, but some spend a lot of time at home eating *fast food*. The pandemic causes an increase in non-communicable diseases due to decreased physical activity, increased stress and high consumption of snacks (Ardella, 2020).

In this study, there are 3 latent variables and their indicators, including changes in body weight, consumption factors and lifestyle factors. From the results of data analysis, it is known that most of the respondents experienced changes in body weight during the Covid-19 pandemic, namely 67.1%, and had a habit of weighing as much as 57.4%. During the pandemic, many changes in body weight occurred in the community, including students. Changes in body weight during the pandemic as a result of increased consumption of snacks and diet can result in an increase in degenerative diseases (Lin et al., 2021).

Table 2 Distribution of Research Variables

Variable	Variable number (n)	%
Change Weight		
1. Size Weight		
Changed	795	67.1
Unchanged	390	32.9
2. Habit of Weighing		
Not Routine	680	57.4
Routine	505	42.6
Factor Consumption		
1. Breakfast Habits		
Usual	616	52
Unusual	569	48
2. Change in Diet		
Not Good	562	47.4
Good	623	52.6
3. Consumption Supplements		
Not Good	532	47.4
Good	653	52.6
Lifestyle Factors		
1. Stress		
Severe Stress	110	9.3
Moderate Stress	914	77.1
Mild Stress	161	13.6
2. Sedentary Behavior		
Not Good	751	63.4
Good	434	36.6
3. Exercise Habits		
Not Good	430	36.3
Good	755	63.7
Total	1185	100

Based on the results of consumption factor analysis, for breakfast habits, some respondents did not usually eat breakfast, namely 52%, experienced changes in eating patterns with almost the same proportion of those who were not good (47.4 %) and good (52.6%), while the supplement consumption indicator did not differ from the proportion of changes in diet, where most of the respondents had taken supplements and it well during the pandemic which is 52.6%. Changes in consumption patterns during the Covid-19 pandemic for students consisted of increasing meal portions, frequency of cooking at home, frequency of snacks, frequency of vegetables and fruit (Noviasty, Reny; Susant, 2020).

Lifestyle factors of respondents Most of them experienced moderate stress, namely 77.1%, with bad sedentary behaviour by 63.4% and good exercise habits by 63.7%, especially sports that are popular again such as bicycles. Activity restrictions during the COVID-19 pandemic can disrupt daily activities where there are several changes, including an increase in sitting, lying down, playing games, watching television and using mobile phones (Chen et al., 2020).

Conclusions

The Covid-19 pandemic has caused changes in the weight, consumption and lifestyle of Indonesian students. Male students who experienced changes in body weight were 19.5%

while female students were 47.5%. Based on age, students in their late teens experienced the most changes in body weight, namely 61.23%. Meanwhile, based on the level of education, Indonesian students who experienced changes in weight mostly occurred in students with undergraduate/professional education levels, namely 55.4%. Both students in the health and non-health fields have almost the same weight change, which is around 30-37%. And based on the area where students live in Waktu Indonesia Barat (WIB) they have the highest change in BB, which is around 59.2%.

During the pandemic, out of 1185 Indonesian students, 67.1% experienced a change in their weight and 57.4% did not regularly weigh their weight. In addition, 52% of Indonesian students have a habit of not having breakfast, although their diet and consumption habits of supplements have changed for the better, which is 52.6%. In terms of lifestyle, most Indonesian students experienced moderate stress during the pandemic (77.1%), with bad sedentary behaviour by 63.4% but good exercise habits by 63.7%. It is hoped that Indonesian students will be more concerned about changes in body weight and lifestyle during the pandemic, because if left unchecked for a long time, they can risk becoming obese and experiencing metabolic syndrome which eventually becomes a degenerative disease.

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