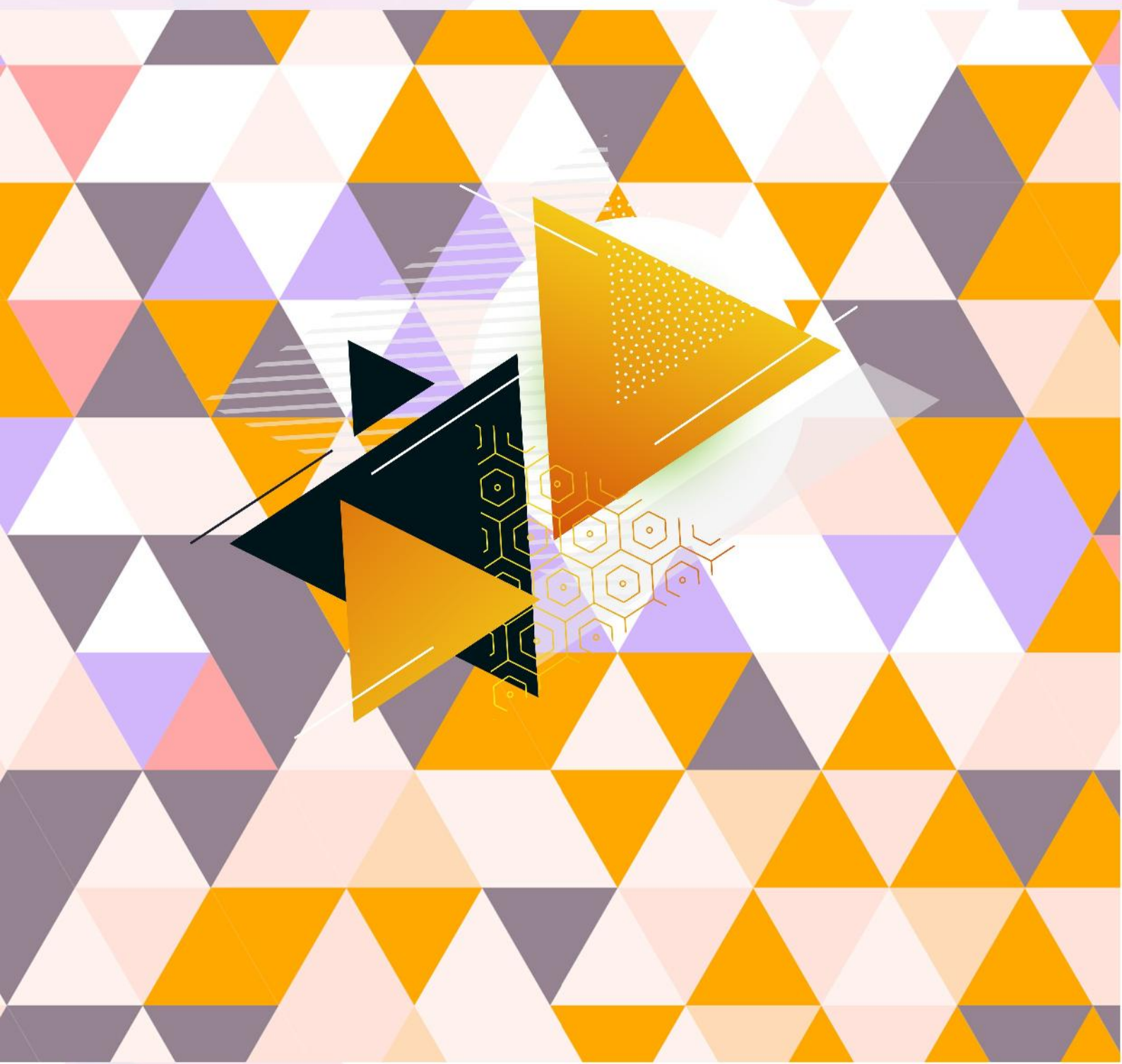


MUHAMMADIYAH

Journal of Epidemiology



**Faculty of Public Health
University of Muhammadiyah Jakarta**

TABLE OF CONTENTS

Multitasking On Health Promotors In Puskesmas At East Jakarta And Lebak Regency	1
Factors Affecting Husband Participation In Family Planning Acceptors In Lampulo Village Banda Aceh City In 2020	7
The Factors Associated With The Incidence Of Anemia In Pregnant Women In Pisangan Public Health Center Visitors In 2020	16
The Effect Of Yoga On Menstrual Pain Reduction In Adolescents	24
Determine The Effect Of Honey Combination Green Bean Soaking Water In Preventing Anemia Of Pregnant Women During The Pandemic	31
Relationship Between The Promotion Of Formula Milk, Breastmilk Production And Psychological Factor Of Mother With Exclusive Breastfeeding In The Work Area Of The Bireuen Peusangan Health Center	35
The Effect Of Physical Exercise On The Quality Of Life Of The Elderly : Systematic Review	43
Aids Stigmatization Among Teenagers	55
Portrait Of The Sedentary Lifestyle Among Students From Public Health School	65
The Effect Of Pre-Pregnancy Body Mass Index (BMI) With The Incidence Of Hypertension In Pregnancy	73

Portrait of The Sedentary Lifestyle Among Students From Public Health School

¹⁾Intan Rosenanda Sofiany, ²⁾Mutia Ika Setyawati

^{1),2)} Magister of Public Health, Faculty of Public Health,
University Muhammadiyah of Jakarta

Jl. K.H. Ahmad Dahlan, Cireundeu, Kec. Ciputat., Kota South Tangerang, Banten 15419

E-mail: intanrosenanda31@gmail.com

ABSTRACT

Sedentary Lifestyle become concern problem both developed and developing countries because the poor health implications, such as obesity, Coronary Heart Disease, and Diabetes Mellitus type 2. Based on RISKESDAS (2018), the proportion of >10 yearsold population who lack physical activity increased from 26.1% in 2013 to 33.5% in 2018. This study aimed to know about sedentary lifestyle among students from Public Health School, University of Muhammadiyah Jakarta in 2019. This study was conducted using quantitative with *cross sectional* study. Data was collected from 237 students in Public Health School, University of Muhammadiyah Jakarta, selected by *simple random sampling*. Data collecting was carried out by ASAQ (*Adolescent Sedentary Activity Questionnaire*) which contained sedentary lifestyle structured questions within 1 week. Data were analyzed descriptively and displayed with frequency and percentage proportions. The results showed that sedentary lifestyle among students from Public Health School, University of Muhammadiyah Jakarta are relatively high that 119 from 237 students in Public Health School, University of Muhammadiyah Jakarta (50.2%) adopted a sedentary lifestyle exceeding the standard obtained from a median of 1157 minutes/week. The most dominant behavior is using social media (2260 minutes/week). The proportion of sedentary lifestyles among female students tended to be higher at 106 students (52.2%) compared to male students (38.2%). The author recommends a "SELINGAN" or Five Minute Stretching Gymnastics program at the Public Health School, University of Muhammadiyah Jakarta. The program plan will be advocate to the faculty leaders in order to implementing *defacto* and *dejure* issue of program.

Keywords : *Adolescent Sedentary Activity Questionnaire (ASAQ), Sedentary Lifestyle, Student*

INTRODUCTION

A sedentary lifestyle is like an invisible threat to every human being in the world, both in developed and developing countries. The presence of technological advances in fact also has implications for changes in people's lifestyles, which previously adopted a traditional lifestyle to a sedentary

lifestyle which resulted in various long-term health impacts in the form of degenerative diseases, including obesity, coronary heart disease (CHD), and type 2 diabetes mellitus.

Sedentary lifestyle is defined as the habit of a person who does not do much physical activity or does not do much movement. Lifestyle is

simultaneously associated with activity at a resting level or a light activity with energy expenditure equal to 1-1.5 metabolic equivalent (METs)(1). The Ministry of Health of the Republic of Indonesia defines a sedentary lifestyle as an activity that refers to all types of activities that are carried out outside of bedtime, with the characteristics of very little calorie output, namely <1.5 METs(2).

World Health Organization has identified physical inactivity (lack of physical activity) as the fourth leading risk factor accounting for 6% of total global deaths worldwide. In addition, lack of physical activity is estimated to be the main cause of approximately 21-25% of breast and colon cancer, 27% of

diabetes, and 30% of ischemic heart disease burden⁽³⁾.

According to data compiled from WHO, 1 in 4 adults around the world do less physical activity. Meanwhile, more than 80% of the world's adolescent population also does insufficient physical activity. Partly low or decreased levels of physical activity are often the result of inaction during leisure and sedentary behavior at work and at home, including adopting a sedentary lifestyle. Likewise, increased use of public transportation modes also contributes to inadequate physical activity⁽⁴⁾. The proportion of the population of female sex is found to be more likely to adopt a lifestyle with less physical activity than men in various parts of the world⁽⁵⁾.

In Indonesia, the proportion of the population age > 10 years who lacks physical activity continues to increase, from 26.1% in 2013 to 33.5% in 2018⁽⁶⁾. Based on a study of 184 public high school students in Yogyakarta, it was found that 56% of adolescents aged 16-18 years with normal nutritional status and overweight/obesity spent screen time as an indicator of lifestyle for more than 2 hours/day⁽⁷⁾. Meanwhile, based on the results of research conducted at SMP Pamulang, South Tangerang City, the largest percentage of sedentary lifestyle among adolescents is <2 hours/day (low category), namely 77.7%. The percentage of adolescents who spend a sedentary lifestyle for 2-4 hours/day (moderate category) is 17.7% and adolescents who spend a sedentary lifestyle > 4-6 hours/day (high category) as much as 5.3% (8).

Students belonging to the adolescent age group are intellectuals who are synonymous with the term "agent of change", where there is great hope that one day they will be able to participate in continuing development and advance the nation in various fields

in this country. The complexity of various health problems in Indonesia, including non-communicable diseases, certainly requires the role of students in particular and adolescents in general, especially those engaged in the health sector, to disseminate information related to the importance of healthy living behavior to the community.

However, to be able to create a community environment that implements a healthy life, of course, requires commitment from the students themselves to implement it in their daily life. To create a healthy society, of course, you have to start from yourself before disseminating it to the community.

Based on this background, the researchers are interested in knowing the Portrait of a Sedentary Lifestyle Student of Present Public Health in students at the Faculty of Public Health, University of Muhammadiyah Jakarta.

METHODS

This research is a descriptive quantitative study with a cross sectional study design. The study was conducted on 237 student respondents from the Faculty of Public Health, University of Muhammadiyah Jakarta in September 2019. The sample was selected using simple random sampling technique. Data collection was carried out by distributing the ASAQ (Adolescent Sedentary Activity Questionnaire) instrument which contains 12 structured questions about sedentary lifestyle for 1 week grouped by weekdays and weekends categories. The data were then analyzed by univariate and displayed according to the proportion of frequencies and percentages.

RESULTS AND DISCUSSION

Characteristics of Research Subjects

The characteristics of the subjects in this study were grouped by gender. Based on the data collected, it was found that the majority of respondents were female, namely as

many as 203 respondents with a percentage of 86%. While 34 other respondents (14%) were male. Characteristics of respondents based on gender can be seen in Table 1. The following:

Table 1.
Characteristics of Respondents

Gender	Frequency	Percentage
Man	34	14%
Women	203	86%
Total	237	100%

Descriptions of Respondents' Sedentary Behavior

Based on the results of the study, it was found that as many as 119 respondents (50.2%) practiced temporary behavior that exceeded the median value obtained in this study which was more than 1157 minutes / week so that it was categorized as

excessive sedentary behavior. Meanwhile, 118 other respondents (49.8%) practiced a sedentary behavior that was less than the median value obtained (<1157 minutes / week) and was categorized as moderate behavior that was not excessive. The distribution of respondents based on the behavior category is depicted in Table 2. below:

Table 2.
Respondent Sedentary Behavior

Category	Frequency	Percentage
Exaggerated	119	50.2%
Not excessive	118	49.8%
Total	237	100%

In this study, the behavior of the respondents was categorized based on the type of activity carried out and divided into 12 categories of simultaneous behavior, namely 1) watching TV, 2) watching videos, 3) playing games, 4) reading books, 5) learning with electronic devices, 6) learning without electronic devices, 7) courses, 8) using transportation, 9) using social media, 10) playing musical instruments, 11) listening to music, and 12) channeling hobbies.

Based on the type of temporary behavior carried out, it is known that the highest average time spent by respondents is in the form of activities using social media, namely for 2260 minutes / week or 5 hours 22 minutes / day (322 minutes / day). Meanwhile, it is known that the lowest average time that respondents spend doing activities is in the form of playing a musical instrument, with an average of 71 minutes / week or 10 minutes / day. The distribution of the average time spent by

the respondents to carry out activities can be seen in Table 3. Below:

Table 3.

Sedentari Behavior Distribution Based on Type of Activity

No.	Type of activity	Average Time Spent
1.	Watching TV	545 minutes / week
2.	Watching video	961 minutes / week
3.	Playing games	1475 minutes / week
4.	Read the book	306 minutes / week
5.	Learning with Electronic Devices	772 minutes / week
6.	Learning Without Electronic Devices	483 minutes / week
7.	Courses	87 minutes / week
8.	Using the means of transportation	757 minutes / week
9.	Using Social Media	2260 minutes / week
10.	Playing Musical Instruments	71 minutes / week
11.	Listening to music	841 minutes / week
12.	Channel Hobby	258 minutes / week

If grouped by sex, it is known that excessive sedentary behavior is found more in female respondents than male respondents, namely with a

percentage of 52.2%. Meanwhile, there were 38.2% male respondents with excessive sedentary behavior. This can be seen in Table 4. below:

Table 4.

Sedentari Behavior Distribution Based on Gender

Gender	Categori				Total	
	Not excessive		Exaggerated		N	%
	n	%	N	%	N	%
Man	21	61.8%	13	38.2%	34	100%
Women	97	47.8%	106	52.2%	203	100%
Total	118	49.8%	119	50.2%	237	100%

This study found that the proportion of students in the Faculty of

Public Health has an excessive sedentary lifestyle with a percentage of 50.2%,

which means that more than half of the total number of respondents have an excessive sedentary lifestyle.

Respondents who are categorized as having an excessive sedentary lifestyle if the total amount of time spent doing activities included in the sedentary lifestyle is more than 1157 minutes/week (median value) or about 2 hours 45 minutes in one day. The median value in this study is obtained based on the calculation of the mean value of all the time the respondent spends doing a sedentary lifestyle.

It is known that the average sedentary behavior spent by the respondents in this study is 1260 minutes/week, which means around 180 minutes or 3 hours per day.

In this study, there were several activities that were categorized into a sedentary lifestyle, namely watching television shows, watching videos (including DVDs and videos on Youtube), playing on playstations, games on laptops, computers, cellphones or tablets, reading novels/comics/magazines, learning activities using and without using electronic devices, additional learning activities/courses, use of transportation (private/public), using various kinds of social media, playing musical instruments, listening to music and making handicrafts/channeling a hobby.

This is in accordance with the results of a preliminary study conducted on students at SD Negeri Beji 02 Tulungagung Regency that several types of activities that lead to a sedentary lifestyle include reading in their spare time, watching TV, playing games, and playing in front of a computer/laptop⁽⁹⁾.

One of the current lifestyle categories associated with health impacts is revealed in a study that states that adolescents and adults who go to school/work by walking/cycling have a lower risk of being overweight/obese. Meanwhile, teenagers and adults who go

for activities using cars, motorbikes and buses have the potential to suffer from being overweight/obese. In this study, it is known that only a portion of the respondents use bicycles or walk when they go to school / work⁽⁷⁾.

Furthermore, based on the type of temporary behavior carried out by the respondent, it shows that the average time spent by the respondent to perform a temporary behavior is by using social media, namely for 2260 minutes/week or 5 hours 22 minutes/day (322 minutes/day). Meanwhile, it was found that the smallest average time the respondent spends doing a temporary behavior is playing a musical instrument, which is 71 minutes/week or 10 minutes/day.

In fact, the high time spent accessing social media has also been revealed by various sources. Globally, there are 42% of the total population who are active social media users. Indonesia is one of the countries with high social media users, namely 49% or 130 million people from a global average of 42%. Meanwhile, the growth rate of social media users in Indonesia ranks third with a percentage of 23%⁽¹⁰⁾.

Based on the duration of social media use, Indonesia also ranks third with an average length of time spent accessing social media for 3 hours 23 minutes in one day⁽¹⁰⁾.

Based on other research results, it was found that the time allocated for the use of social media in the world increased by 90 minutes/day in 2012 to 143 minutes/day in 2019 or an increase of around 60 minutes. The Philippines is a country where its citizens spend the highest time on social media, namely 241 minutes/day, while Japanese citizens only allocate time to use social media for 45 minutes/day. Based on the age group, the age category of 16-24 years is the population that spends the most time accessing social media, with an average of 175 minutes/day⁽¹¹⁾.

In another study conducted on adolescents in a high school in Manado, it was found that the majority of respondents spent 3-4 hours/day using social media with a percentage of 50%, the group that spent 5-6 hours/day was 30.6% and the group that spends time using social media for 1-2 hours/day as much as 19.4%⁽¹²⁾. Other studies also reveal that the majority of young adults allocate time to access social media for more than 3 hours/day with a percentage of 59%⁽¹³⁾. The same thing was also expressed in research involving students in Palembang, that the majority of informants involved in the research could spend more than 3 hours/day accessing social media⁽¹⁴⁾.

Meanwhile, based on the gender group, it is known that the sedentary lifestyle is mostly practiced by female respondents than male respondents. The percentage of female respondents who adopt a sedentary excessive lifestyle (above the median value) is 52.2% or more than half of the total number of respondents. Meanwhile, male respondents who applied a sedentary lifestyle in the excessive category were 38.2%.

The existence of research related to the application of a sedentary lifestyle which is mostly carried out by certain genders has been widely disclosed. Among them are data published by the World Health Organization where the female population is found to be more sedentary than men in all parts of the world⁽⁵⁾.

In another study of the population with obesity in Indonesia, it was also found that the average time spent by women in implementing a sedentary lifestyle was higher than men, namely 3.90-3.97 hours/day for women and 3.68-3.79 hours/day for men. Men⁽¹⁵⁾. Research on adults in Malaysia also shows that the behavior of the lack of physical activity and the adoption of a sedentary lifestyle is more carried out by the female population than the male population⁽¹⁶⁾.

The high rate of lifestyle for women has implications for health. A study involving a population of women aged 20-74 years states that a sedentary lifestyle in women is linked to a decrease in estrogen metabolism, where estrogen is an important hormone for women that plays a role in reproductive development and growth⁽¹⁷⁾.

In addition, a sedentary lifestyle increase in women also has a significant interaction with consumption of unhealthy foods with the incidence of obesity⁽¹⁵⁾. The same results were also found in other studies which stated that gender had an effect on being overweight and obese in adolescents, especially women. Teenage girls tend to consume more snacks or snacks than boys. Unhealthy eating patterns can certainly lead to accumulation of fat in the body. Therefore, consumption of high-calorie foods without adequate physical activity can lead to the risk of obesity in adolescents⁽⁷⁾.

CONCLUSION

The portrait of a sedentary lifestyle among students/I of the Faculty of Public Health, University of Muhammadiyah Jakarta is fairly high, namely 50.2% who apply a sedentary lifestyle of excess, namely 1157 minutes/week or 2 hours 45 minutes/day. The most dominant sedentary behavior is the use of social media, with an average time spent of 2260 minutes/week or 5 hours 22 minutes/day (322 minutes/day). Sedentary lifestyle tends to be higher in the female gender.

This can lead to various dangerous health risks in the future if proper and structured interventions are not carried out. So early anticipation is needed to prevent diseases and problems caused by a sedentary lifestyle such as obesity, coronary heart disease, and type 2 diabetes and other health problems.

The author suggests the holding of the "SELINGAN" or Five Minute Stretching Gymnastics program at the

Faculty of Public Health, University of Muhammadiyah Jakarta as a step to anticipate the health impacts that will arise from a sedentary lifestyle. The program plan will be advocated to the leadership of the Faculty of Public Health, University of Muhammadiyah Jakarta to issue a defacto and dejure implementation policy.

In addition, further research is needed related to the phenomena of a sedentary lifestyle which is increasingly prevalent as a result of technological advances so that appropriate strategies can be formulated both in the short and long term so as not to have an impact on the public health status in the future.

REFERENCES

1. Costigan SA, Barnett L, Plotnikoff RC, Lubans DR. The Health Indicators Associated With Screen-Based Sedentary Behavior Among Adolescent Girls : A Systematic Review. *J Adolesc Heal* [Internet]. 2013;52(4):382–92. Available from: <https://doi.org/10.1016/j.jadohealth.2012.07.018>
2. P2PTM Kemenkes RI. Yuk, Mengenal Apa Itu Kegiatan Sedentari ? [Internet]. Direktorat Pencegahan dan Pengendalian Penyakit Tidak Menular Direktorat Jenderal Pencegahan dan Pengendalian Penyakit Kementerian Kesehatan RI. 2019 [cited 2020 Jun 30]. Available from: <http://www.p2ptm.kemkes.go.id/infographic-p2ptm/obesitas/page/8/yuk-mengenal-apa-itu-kegiatan-sedentari>
3. World Health Organization. Global Strategy on Diet, Physical Activity and Health [Internet]. World Health Organization. 2018 [cited 2020 Jun 30]. Available from: <https://www.who.int/dietphysicalactivity/pa/en/>
4. World Health Organization. Physical Activity Key Facts [Internet]. World Health Organization. 2018 [cited 2020 Jun 30]. Available from: <https://www.who.int/news-room/fact-sheets/detail/physical-activity>
5. World Health Organization. ACTIVE : A Technical Package for Increasing Physical Activity. Geneva; 2018.
6. Kementerian Kesehatan. Hasil Utama RISKESDAS 2018. Jakarta; 2018.
7. Kurdaningsih SV, Sudargo T, Lusmilasari L. Physical Activity and Sedentary Lifestyle Towards Teenagers' Overweight/Obesity Status. *Int J Community Med Public Heal* [Internet]. 2016;3(3):632. Available from: <https://www.ijcmph.com/index.php/ijcmph/article/view/767>
8. Desmawati. Gambaran Gaya Hidup Kurang Gerak (Sedentary Lifestyle) dan Berat Badan Remaja Zaman Milenial di Tangerang, Banten. *J Ilm Kesehat Masy* [Internet]. 2019;11(4):296. Available from: <https://jikm.upnvj.ac.id/index.php/home/article/view/50/36>
9. Setyoadi, Rini IS, Novitasari T. Hubungan Penggunaan Waktu Perilaku Kurang Gerak (Sedentary Behaviour) dengan Obesitas pada Anak Usia 9-11 Tahun di SD Negeri Beji 02 Kabupaten Tulungagung. *J Ilmu Keperawatan* [Internet]. 2015;3(2):157. Available from: www.jik.ub.ac.id
10. Kemp S. Digital In 2018 : Essential Insights Into Internet, Social Media, Mobile, and Ecommerce Use Around The World [Internet]. Inggris; 2018. Available from: <https://digitalreport.wearesocial.com>
11. Duarte F. Berapa Banyak Waktu yang Dhabiskan Rakyat Indonesia di Media Sosial ? [Internet]. BBC Indonesia. 2019 [cited 2020 Jul 4]. Available from: <https://www.bbc.com/indonesia/majalah-49630216>
12. Syamsodin WKP, Bidjuni H,

- Wowiling F. Hubungan Durasi Penggunaan Media Sosial dengan Kejadian Insomnia pada Remaja di SMA Negeri 9 Manado. E-Journal Keperawatan (e-Kp) [Internet]. 2015;3(1):5. Available from: <https://media.neliti.com/media/publications/113617-ID-hubungan-durasi-penggunaan-media-sosial.pdf>
13. Maheswari J, Dwiutami L. Pola Perilaku Dewasa Muda yang Kecenderungan Kecanduan Situs Jejaring Sosial. J Penelit dan Pengukuran Psikol. 2013;2(1):55.
 14. Putri LS, Purnama DH, Idi A. Gaya Hidup Mahasiswa Pengidap Fear of Missing Out di Kota Palembang. J Masy dan Budaya. 2019;21(2):136.
 15. Nurwanti E, Uddin M, Chang J-S, Hadi H, Abdul SS, Su EC-Y, et al. Roles of Sedentary Behaviors and Unhealthy Foods in Increasing the Obesity Risk in Adult Men and Women : A Cross-Sectional National Study. Nutr MDPI [Internet]. 2018;10(6):704. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6024814/>
 16. Ying C, Kuay LK, Huey TC, Hock LK, Hamid HAA, Omar MA, et al. Prevalence and Factors Associated With Physical Inactivity Among Malaysian Adults. Southeast Asean J Trop Med Public Heal [Internet]. 2014;45(2):467–80. Available from: <https://pubmed.ncbi.nlm.nih.gov/24968689/>
 17. Dallal CM, Brinton LA, Mathews CE, Pfeiffer RM, Hartman TJ, Lissowska J, et al. Association of Active and Sedentary Behaviors With Postmenopausal Estrogen Metabolism. Med Sci Sport Exerc [Internet]. 2016;48(3):439–48. Available from: <https://pubmed.ncbi.nlm.nih.gov/26460631/>