Physical Activity Level and Quality of Life of Students During Covid 19 Pandemic

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Abstract. Through International Physical Activity Questionnaire (IPAQ) this research has the intent and purpose of examining the extent to which physical activity and quality of life is carried out by students in the Sports Coaching Education Department, especially in the class of 2021. This research itself is based on the current situation in the world that is still hit by Covid 19. As a result, the lecture activities are carried out separately, so for practical lecture activities, controlling for monitoring and evaluating optimally from the implementation of lecture activities cannot be carried out. The research uses a descriptive percentage approach in its implementation. While the data collection used IPAQ questionnaire as the instrument. A total of 80 samples used in this study were obtained from students in the Sports Coaching Education Department. The results of the analysis show that there are 30% of students who can be categorized as having a fairly high level of physical activity, while for students who have a moderate level of activity, the results are 45% and 25% for students with low levels of physical activity. Based on these results it can be concluded that during the Covid 19 pandemic which is still ongoing today, it can be interpreted that students have a tendency to decrease their physical activity level, where one of the contributing factors is the reduced physical activity they do every day and of course this also affects the quality of life of these students.

Keywords: Physical Activity, Quality of Life, Covid 19.

1 Introduction

In order to improve the quality of physical fitness, especially among students of the Department of Sports Coaching Education in the class of 2021, physical activity can be said to be one of the most important factors for an individual, because by doing physical activity or exercising students will become fitter and healthier. In addition, physical activity is considered as one of the important factors related to health and improving quality of life (1).

Quality of life is a subjective perception of an individual on psychological, social, physical activity, and environmental conditions in dealing with the daily life that is passed. A person's quality of life is also related to aspects of physical health related to daily physical activities.

Several studies have shown that a person who has low physical activity and has a poor diet can be a factor that can cause diseases related to the person's own lifestyle (2). In addition, physical activity is also related to physical fitness which can help a person increase his productivity which can later play an important role in measuring or knowing the risk of disease that will attack (3).

Magnitude of relationship between physical activity and health varies greatly from individual to individual, but in reality it is still difficult to make an accurate assessment of the relationship between pattern of physical activity in a large population and the energy used to perform physical activity (4), therefore there is still a need for research that can reveal differences in the results of physical activity of each individual.

A student has a risk of disease if the student has low physical activity results. However, if a student has productivity in carrying out physical activities, it will also have an impact on his good fitness level. So it is not surprising that currently the awareness of how students maintain and increase their level of physical activity is also increasing (5). In addition, if a person has low physical fitness and has a low physical level, this will have an impact on the risk of cardiovascular disease (6).

The Covid-19 outbreak that has hit the world and Indonesia is no exception has resulted in the process of learning or lectures that were originally conducted offline to be carried out online. This did not escape the impact on students in the Department of Sports Education Education who conducted online lectures in 2021. Where the online lecture process has an impact on practical courses including volleyball, basketball, soccer, swimming, physical fitness, etc. In addition, there are changes related to student lifestyles that have occurred due to the Covid-19 pandemic (7), as well as the recommendation to maintain distance, can also affect the physical and mental health of students. students themselves (8). For sports people, inactivity in doing physical activity itself can be considered as another pandemic that occurs by itself (9).

As a result of online lectures in practical courses, among others, lecturers cannot optimally provide material or evaluate student lecture activities. Where before the Covid-19 pandemic in practical courses, especially in physical fitness courses, the lecture activity process can be used as a guide by lecturers to be able to find out the level of students' physical activity and to evaluate the lecture process activities for now cannot be done because online lectures are still ongoing. And the Covid-19 outbreak hasn't gone away either.

Responding to the Covid-19 phenomenon that occurs related to physical activity, currently many researchers are interested in observing these problems, especially in the field of sports because in general it can be explained that reduced activity in carrying out physical activities risks reducing fitness levels.

Therefore, by applying appropriate and reliable measurement techniques to assess physical activity levels, not only practical data will be obtained in assessing students' fitness levels (10). Accurate measurement of physical activity is very important to identify and evaluate trends in physical activity levels related to the health benefits of physical activity itself (11).

On the basis of this, in accordance with the objectives of the research conducted, this study was carried out to determine and evaluate the level of physical activity of students of the Department of Sports Coaching Education during online lectures during the Covid-19 pandemic for students of the 2021 batch, which will be collected in 2021. Related to the level of physical activity of these students, to be able to evaluate the level of physical activity of students, this study required data on the level of physical activity of students which could reflect their level of physical activity is actually easy to obtain using popular measuring instruments or instruments, but sometimes the reliability of these measuring instruments is still often questioned (12).

The purpose of evaluating the level of physical activity carried out is as follows: firstly it aims to identify conditions that can interfere with students' ability to participate in physical activity and sports activities, secondly aims to identify health problems that can increase the risk of injury or death when participating in sports activities, and the last aims to be able to assist students in determining the type of sport according to their abilities and physical status.

Therefore, in this study the data collected was obtained using a questionnaire from the IPAQ (International Physical Activity Questionnaire) which was used to determine the level of physical activity of the students. Where several studies related to physical activity have used the questionnaire to determine the level of physical activity of a particular population. The self-report questionnaire using the IPAQ was completed by students during the research day with the help of the researcher in filling it out. The results of this study are expected to be used as material for evaluation and reflection for students in the Department of Sports Coaching Education so that they can carry out regular physical activities so that they stay fit.

2 Material & Methods

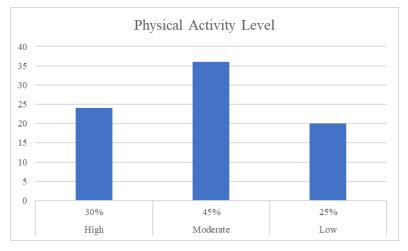
This type of research uses descriptive research. Descriptive research is research that is used to explain or describe the data collected in a study, where this type of descriptive research is used to collect data about the level of physical activity of students. The data in this study were collected within 1 week. The instrument used in collecting data uses a questionnaire from the IPAQ (International Physical Activity Questionnaire). Furthermore, based on the data obtained, then an analysis was carried out using a descriptive percentage technique. Furthermore, the IPAQ (International Physical Activity Questionnaire) is used as an instrument in measuring the level of physical activity where the instrument is already valid based on the tests that have been carried out.

The research sample amounted to 80 people consisting of students of the 2021 Sports Coaching Education Study Program with an age range of 17-20 years. The sample was taken from a student population of 171 students of class 2021. Sampling was carried out based on a purposive sampling technique by taking into account inclusion and exclusion indicators. In detail, the criteria for inclusion factors are age in the range of 17-25 years, and are students of the 2021 Sports Coaching Education Department, active in the Student Activity Unit (UKM), active as athletes, and do not have cardiovascular disease. The exclusion criteria in this study were those who were less than 17 years old or more than 25 years old, had or were suffering from one of the degenerative diseases (cardiovascular, diabetes, etc.). This study was intended to obtain information and evaluate the level of physical activity of the 2021 students of the Department

of Sports Coaching Education in online lectures during the Covid-19 pandemic. At the evaluation stage of the student's physical activity level, evaluation activities are divided into 5 activity procedures, namely: evaluation planning, evaluation implementation, data processing, data interpretation and reporting results.

3 Results and Discussion

The data obtained in this study showed that from the total research sample, which amounted to 80, there were 30% (24 students) of the 2021 Department of Sports Coaching Education students were classified as having their physical activity level in the high category, while 45% (36 students) had a level of physical activity moderate and 25% (20 students) have a low level of physical activity low. The distribution of the data can be seen in the following figure.



Graph 1. Results of Physical Activity Levels of Students

The data shown in Graph 1 based on the results of data taken using a questionnaire from the International Physical Activity Questionnaire does show that the students of the Department of Sports Coaching Education class of 2021 have a moderate level of physical activity. However, from these data, there are still around 25% of students who have low levels of physical activity. So on this basis it is necessary to provide input for students who have low levels of physical activity to be able to increase their physical activity activities. On this basis, it is hoped that their activity level can rise to a medium or high level, because when someone has a high level of physical activity it will be directly proportional to their good physical fitness.

 Table 1. Percentage of results of male and female students by type of physical activity and average duration of activity

Reporting	Gender	n	Walking			Moderate activity		Vigorous activity	
mode			%	week		%	h/week	%	h/week
	Male	52	82.5	9.7	±	32.5	3.4 ± 6.1	79.2	5.7 ± 9.2
				15.2					

Self-	Female	28	89.3	5.2 ± 5.7	56.2	2.0 ± 2.4	43	3.7 ± 5.8
completion								
(SC)								

Apart from the frequency described from the results of physical activity training, in this study related to intensity and duration were also calculated and the average value the average is also presented in Table 1.

Based on the research results obtained, it can be explained that the IPAQ test right to use to monitor trends and evaluate public health or individual interventions aimed at increasing levels of physical activity, valid measurements of physical habits are performed (13). The physical activity questionnaire commonly called the IPAQ was developed to address this problem by a group of experts in 1998 to facilitate monitoring of physical activity based on global standards (14).

Given the wide range of abilities, the IPAQ is considered one of the most advanced international questionnaires to measure physical activity (frequency, duration, and intensity of an activity) in various populations (in both developed and developing countries), (15). In addition, the use of IPAQ (International Physical Activity Questionnaire) showed positive results in several studies using diverse populations (16).

In addition, physical activity is positively related to motor skills and physical fitness. In particular, a person who has a strong, or moderate level of physical activity associated with changes in the individual's aerobic fitness (17). Here it should be remembered that the physical activity carried out involves the movement of each individual that is intentional, voluntary, and directed towards achieving goals whose results can later be identified.

Thus, it is very important to integrate physical activity into the lives of students and establish provisions regarding how to continue to facilitate them in maintaining a healthy and active lifestyle during this pandemic (18). Based on the results of research from (19) showed that the level of physical activity among college students during the lockdown, showed that Health Science students performed significantly higher.

This study also verifies and examines the different results between the physical activity of male and female students (see table 1). Where for female students have a tendency that the results of physical activity is lower than male students. This is in accordance to (20) which states that female physical education students have lower physical activity results than male students. Although many factors influence the female students that encourage them to be able to explore physical activity, as well as many factors that can be a barrier for them to do so. The obstacles that become the barrier may occur because physically they lack time to be able to do activities, lack of access to sports facilities, and the unsafe environment that will be used for physical activities. However, this should not be the biggest factor that hinders them from doing physical activities or exercising.

4 Conclusions

Based on the research above, it can be concluded that the results of the students studied had different results, where for the 24 batch of 2021 students of the Department of Sports Coaching Education, 30% had a high level of physical activity high. As for the 36 students, 45% had a moderate level of physical activity, and a number of 20 students had a low physical activity level low visits of 25% results.

From the results above, it can be explained that during the ongoing Covid-19 it turned out that it was not a barrier for students to carry out physical activity activities, where this can be seen based on the results of the dominant student IPAQ in the moderate category for the level of physical activity of students in the class of 2021. However, it should be noted in particular for female students whose average results are lower than male students regarding their level of physical activity, so it is recommended for female students to do physical activity more often so that later the level of activity and quality of life will increase also their physique and fitness can improve gradually. In addition, because the potential of physical activity can help a student in expressing what is happening to his body, therefore it seems that each student needs to maximize the opportunity to be involved in various physical activities and make it a routine activity carried out in daily life.

References

[1] Ammar A, Brach M, Trabelsi K, Chtourou H, Boukhris O, Masmoudi L, et al. Effects of COVID-19 Home Confinement on Eating Behaviour and Physical Activity : Results of the. Nutrients. 2020;12(1583):13.

[2] Bauman A, Bull F, Chey T, Craig CL, Ainsworth BE, Sallis JF, Bowles HR, Hagstromer M, Sjostrom M, Pratt M; IPS Group. The International Prevalence Study on Physical Activity: results from 20 countries. Int J Behav Nutr Phys Act. 2009 Mar 31;6:21. doi: 10.1186/1479-5868-6-21.

[3] Biernat E, Piątkowska M. Overestimation of physical activity by long IPAQ in a Polish nationwide study. Hygeia Public Heal. 2016;51(1):87–95.

[4] Brown WJ, Trost SG, Bauman A, Mummery K, Owen N. Test-retest reliability of four physical activity measures used in population surveys. J Sci Med Sport. 2004 Jun;7(2):205-15.

[5] Bürgi F, Meyer U, Granacher U, Schindler C, Marques-Vidal P, Kriemler S, Puder JJ. Relationship of physical activity with motor skills, aerobic fitness and body fat in preschool children: a cross-sectional and longitudinal study (Ballabeina). Int J Obes (Lond). 2011 Jul;35(7):937-44. doi: 10.1038/ijo.2011.54.

[6] Cerin E, Leslie E, Bauman A, Owen N. Levels of physical activity for colon cancer prevention compared with generic public health recommendations: population prevalence and sociodemographic correlates. Cancer Epidemiol Biomarkers Prev. 2005 Apr;14(4):1000-2. doi: 10.1158/1055-9965.EPI-04-0622.

[7] Craig CL, Marshall AL, Sjöström M, Bauman AE, Booth ML, Ainsworth BE, Pratt M, Ekelund U, Yngve A, Sallis JF, Oja P. International physical activity questionnaire: 12-country reliability and validity. Med Sci Sports Exerc. 2003 Aug;35(8):1381-95.

[8] Craig CL, Marshall AL, Sjöström M, Bauman AE, Booth ML, Ainsworth BE, Pratt M, Ekelund U, Yngve A, Sallis JF, Oja P. International physical activity questionnaire: 12-country reliability and validity. Med Sci Sports Exerc. 2003 Aug;35(8):1381-95.

doi: 10.1249/01.MSS.0000078924.61453.

doi: 10.1249/01.MSS.0000078924.61453.

[9] Glauber dos Santos F da Silva, Rogério B, Marcela R, Carolina M, Renato M, Mauricio BF. Evaluation of the physical activity level of undergraduation students of health /biology fields. Brazilian J Sport Med. 2007;13(1):32–5.

[10] Hall G, Laddu DR, Phillips SA, Lavie CJ, Arena R. A tale of two pandemics: How will COVID-19 and global trends in physical inactivity and sedentary behavior affect one another? Prog Cardiovasc Dis. 2021 Jan-Feb;64:108-110. doi: 10.1016/j.pcad.2020.04.005.

http://dx.doi.org/10.1038/s41430-020-0646-z

[11] Lee PH, Macfarlane DJ, Lam TH, Stewart SM. Validity of the International Physical Activity Questionnaire Short Form (IPAQ-SF): a systematic review. Int J Behav Nutr Phys Act. 2011 Oct 21;8:115. doi: 10.1186/1479-5868-8-115.

[12] Mattioli AV, Ballerini Puviani M, Nasi M, Farinetti A. COVID-19 pandemic: the effects of quarantine on cardiovascular risk. Eur J Clin Nutr [Internet]. 2020;74(6):852–5. Available from:

[13] McLure SA, Summerbell CD, Reilly JJ. Objectively measured habitual physical activity in a highly obesogenic environment. Child Care Health Dev. 2009 May;35(3):369-75. doi: 10.1111/j.1365-2214.2009.00946.x.

[14] Ramania NS, Apriantono T, Syafriani R, Kusnaedi. The Analysis of Physical Acitivity and Physical Fitness Level of Lecturers and Employees of ITB in 2018. J Pendidik Jasm dan Olahraga. 2020;5(2):129–33.

[15] Rääsk T, Maëstu J, Lätt E, Jürimäe J, Jürimäe T, Vainik U, et al. Comparison of IPAQ-SF and two other physical activity questionnaires with accelerometer in adolescent boys. PLoS One. 2017;12(1):1–14.

[16] Romero-Blanco C, Rodríguez-Almagro J, Onieva-Zafra MD, Parra-Fernández ML, Prado-Laguna MDC, Hernández-Martínez A. Physical activity and sedentary lifestyle in university students: [1] Changes during confinement due to the covid-19 pandemic. Int J Environ Res Public Health. 2020;17(18):1–13.

[17] Rowlands A, Ingledew DK, Eston RG. The effect of type of physical activity measure on the relationship between body fatness and habitual physical activity in children: A meta-analysis. Ann Hum Biol. 2000;27(5):479–97.

[18] Santana C, Azevedo LB, Cattuzzo MT, Hill JO, Andrade LP, Prado WL. Physical fitness and academic performance in youth: A systematic review. Scand J Med Sci Sport. 2017;27(6):579–603.

[19] Sloan RA, Haaland BA, Leung C, Padmanabhan U, Koh HC, Zee A. Cross-validation of a nonexercise measure for cardiorespiratory fitness in Singaporean adults. Singapore Med J. 2013;54(10):576–80.

[20] Zeng N, Ayyub M, Sun H, Wen X, Xiang P, Gao Z. Effects of physical activity on motor skills and cognitive development in early childhood: A systematic review. Biomed Res Int. 2017;2017.