An Overview Physical Activity Level of The Universitas Negeri Surabaya Academic Community in Supporting Healthy Campus

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Abstract. The purpose of this study was to determine the level of physical activity of the academic community (lecturers and employees) of Surabaya State University in each faculty. A total of 2698 students and 355 lecturers of surabaya state university participated as subjects in this study. The collection of research data was carried out in August 2021 when students filled out the Study Plan Card online. The research instrument used the GPAQ (Global Physical Activity Questionnaire) questionnaire to measure the level of physical activity. The results showed that students of the Faculty of Sports Science had the highest Mets score with a score of 3922.61 minutes / week. The physical activity category of students obtained results of 14% in the high category, 45% in the medium category and 14% in the high category. Meanwhile, the physical activity category of lecturers obtained results of 11% in the high category, 52% in the medium category and 37% in the low category. In conclusion, the majority of the level of physical activity of lecturers and employees of Surabaya State University is in the medium category which leads to the low category.

Keywords: Physical Activity, Student, Lecturer, Universitas Negeri Surabaya.

1 Introduction

A healthy campus is one of the programs on health promotion in the campus environment to realize a comfortable and healthy learning process [1]. The concept of Health Promotion originated from the Charter of Ottawa (1986), which was compiled at the first International Conference organized by the World Health Organization (WHO) [2]. Promoting health is not only the responsibility of the health sector, but also the responsibility of society in general in promoting a healthy lifestyle towards well-being. Health is a process that allows people to be able to control their health conditions to improve their health conditions [3]. Control over health can be done if a person or group of people can create a healthy environment both physically, mentally and socially [4].

Health promotion can be done by providing policy rules that support the creation of a healthy environment. A rule-based approach to policy can be applied in schools, workplaces, markets, residential areas, and others to address priority health issues [5]. Surabaya State

ACPES 2022, October 28-30, Medan, Indonesia

DOI 10.4108/eai.28-10-2022.2327463

University is one of the campuses in the city of Surabaya that is quite concerned about fitness and physical activity, it is proven that there are 4 study programs that are concerned with the fields of sports and physical activity. Physical activity is different from sports practice. Physical activity is any body movement produced by skeletal muscles and expends energy which includes daily activities such as doing work according to their profession, free time, or active travel [6]. While the practice of sports is part of a planned, structured and repetitive physical activity that has certain goals both to maintain physical fitness and achieve achievements [7][8]. Less physical activity is the cause of 6% of deaths in the world and is the number 4 cause of death in the world [9]. Elmagd (2016) also states that physical activity and exercise can reduce anxiety and stress, increase self-confidence, sharpen brain memory and increase muscle and bone strength [10]. In addition, dosed physical activity will help in the prevention of the risk of heart disease, diabetes, obesity, cardiovascular disease and cancer [11]. In an effort to improve a healthy lifestyle, the world of education in general suggests increasing physical activity and exercise and reducing sedentary behavior [9]. The health benefit obtained from sufficient physical activity is that it can improve academic performance with a healthy cognitive and brain condition [12]. So it can be concluded that sufficient physical activity will have a positive impact on lecturers and students because it will support aspects in achieving learning goals.

A sedentary lifestyle and an unhealthy diet can increase susceptibility to health [13]. The high prevalence of tobacco use along with an increase in unhealthy dietary practices and a decrease in physical activity contributes to an increase in biological risk factors which in turn leads to an increase in non-communicable diseases [14]. Measurement of physical activity is important to do as an effort to improve health to overcome excessive sedentary activity [15][9]. Increased physical activity is as important as tobacco control, healthy diet and prevention of obesity as Bauman (2006) states that increased obesity is a result of low physical activity [16]. Therefore, knowing the picture of the level of physical activity is important as a basis in determining health programs, especially in the campus area.

2 Method

This research is a cross-sectional study with a quantitative descriptive approach. Students with a total of 2698 and 355 lecturers of surabaya state university participated as subjects in this study. The collection of research data was carried out in August 2021 when students filled out the Study Plan Card online. The research instrument uses the WHO standard questionnaire GPAQ (Global Physical Activity Questionnaire) to measure the level of physical activity [17]. Respondents filled out the questionnaire by reporting the number of days and duration of activities when studying or working, activities on the way, and recreational activities [18]. he results of filling out the GPAQ questionnaire are stated in MET-minutes/week METs or Metabolic Equivalents as an illustration of the intensity of physical activity. Physical activity is low when the MET value is < 600, while when the MET value is between > 600 - < 3000, high when the MET value is >3000 [19].

The collected data will be carried out a descriptive analysis to determine the average value of physical activity of the study subjects. The category of physical activity is also presented in percentages to find out the level of its physical activity. The man whitney test was conducted to determine the difference in physical activity levels between lecturers and students.

3 Result

Before being presented with research data, it is necessary to know in advance the characteristics of respondents involved in taking research data so that the research results are in accordance with the conditions of the respondents and can be generalized. Data on the characteristics of respondents are presented in table 1.

Table 1. Characteristics of research respondents.

Respondent's characteristics	Student		Lecturer	
	Frequency	**Percent**	**Frequency**	**Percent**
Gender				
Male	772	28.61%	187	52.68%
Female	1926	71.39%	168	47.32%
Age (year)				
17-19	1233	45.70%	-	-
20-22	1161	43.03%	-	-
23-25	209	7.75%	-	-
>25	95	3.53%	-	-
20-35	-	-	108	30.42%
36-50	-	-	133	37.46%
51-65	-	-	107	30.14%
>65	-	-	7	1.97%
Body Height (cm)				
140-150	283	10.49%	28	10.49%
151-160	1287	47.70%	139	39.15%
161-170	818	30.32%	133	37.46%
171-180	290	10.75%	49	13.80%
>181	20	0.74%	6	1.69%
Body Weight (kg)				
30-50	1058	39.21%	25	7.04%
51-70	1276	47.29%	189	53.24%
71-90	306	11.34%	118	33.24%
90-110	49	1.82%	18	5.07%
>100	9	0.33%	5	1.41%

From table 1 above, it states that the number of respondents for students with female gender is more than that of men, but the number of respondents for male lecturers is more than that of female lecturers. Student respondents with an age range of 17-19 years are the most respondents, while the most lecturer respondents are lecturers with an age range of 36-50 years. The most dominant height is height with a range of 151-160 cm in both lecturers and students, while weight is dominated by weight with a range of 51-70 kg in both lecturers and students.

This research is to find out the level of physical activity of lecturers and students of surabaya state university. The GPAQ instrument was used in this study which consisted of 16 questions related to the number of days and duration of activities when studying or working, activities on the go, and recreational activities. The results of the level of physical activity are presented per faculty at Surabaya State University which consists of Vocational Program, Postgraduate Program, Faculty of Mathematics and Natural Sciences, Faculty of Social Sciences and Law, Faculty of Science Education, Faculty of Sports Science, Faculty of Economics, Faculty of

Languages and Arts, Faculty of Engineering. The following are the results of the level of physical activity of students and lecturers in each Faculty stated in the METs:

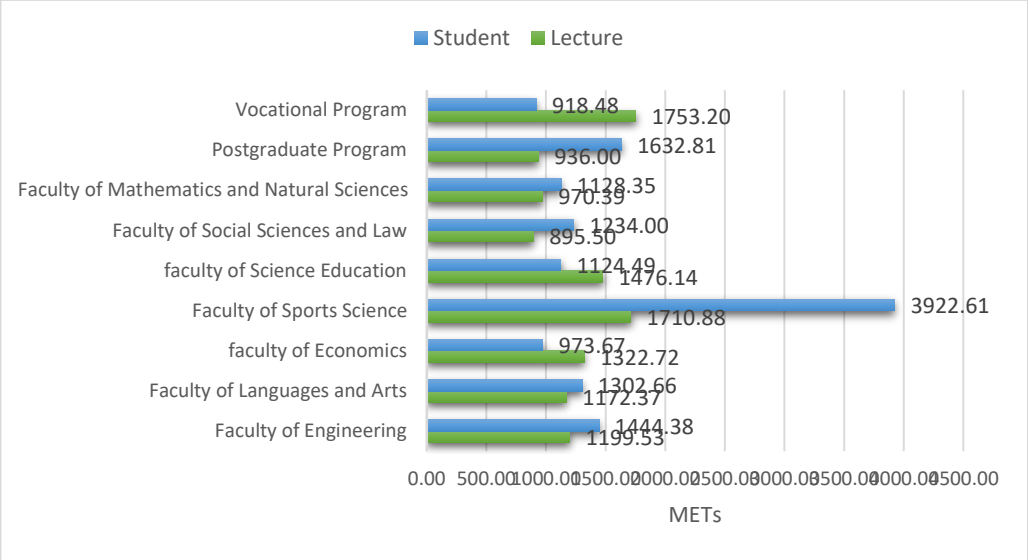

Fig. 1. The results of the METs scores of lecturers and students of each faculty/program at universitas Negeri Surabaya.

Fig 1 above shows the indigo METs of lecturers and students in each faculty at the state university based on the results of calculations using the GPAQ questionnaire. Students in the faculty of sports sciences have the highest Mets scores with a score of 3922.61 minutes/week. Meanwhile, the lowest METs score was obtained by lecturers of the faculty of social sciences and law with a score of 895.50 minutes / week.

To find out the difference between the METs scores of lecturers and students in each faculty, a different test was carried out using the whitney mann test because the data showed that it was not normally distributed. The data is contained in table 2.

Table 2. Differences in METs data between lecturers and students of Universitas Negeri Surabaya

Faculty / Program	N	**Mean±SD**	P (sig)
Faculty of Languages and Arts	Lecture = 50	1172.37±1308.26	0.757
	Student = 289	1302.66±1833.73	
Faculty of Engineering	Lecture = 58	1199.53±1531.37	0.946
	Student = 436	1444.38±2002.68	
Faculty of Science Education	Lecture = 65	1476.14±1640.34	0.011*
	Student = 861	1124.49±1606.07	
Faculty of Economics	Lecture = 43	1322.72±1345.29	0.023*
	Student = 195	973.69±1318.17	
Faculty of Sports Sciences	Lecture = 53	1710.88±1474.63	0.000*
	Student = 292	3922.61±3594.54	
Vocational Program	Lecture = 15	918.48±1234.13	0.082
	Student = 122	1753.20±2197.25	

Postgraduate Program	Lecture = 5 Student = 87	936.00±545.97 1632.81±2072.53	0.836
Faculty of Social Sciences and Law	Lecture = 24 Student = 227	895.50±721.08 1234.00±2393.47	0.714
Faculty of Mathematics and Natural Sciences	Lecture = 42 Student = 189	970.39±969.84 1128.35±1307.38	0.977

*significantly different using the Mann Whitney test ($p<0.05$)

According to the table above calculated using the Mann Whitney test, the results were obtained that there was a significant difference in the METs value of lecturers and students in 3 faculties, namely the Faculty of Economics, Faculty of Sports Science and Faculty of Science Education ($p<0.05$).

Then the percentage of physical activity level categories is calculated based on the known values of METs. If the MET value < 600 then the physical activity is in the low category, if the MET value is between > 600 - < 3000 then it is included in the medium category, and if the MET value is >3000 then it is included in the high category [19]. The results of the percentage of categories of physical activity levels are presented in the figure :

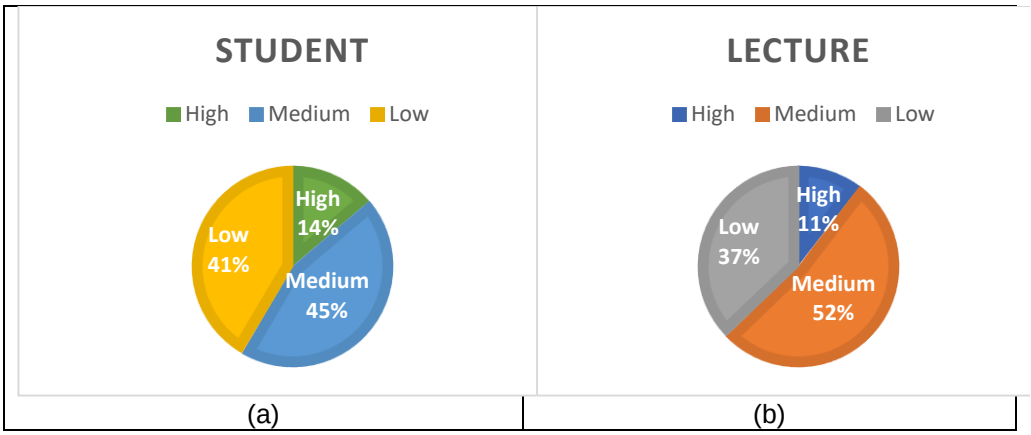

Fig. 1. (a) Category percentage of physical activity level of students Universitas Negeri Surabaya; (b) Category percentage of physical activity level of lectures Universitas Negeri Surabaya

From fig. 2 above it can be seen that the majority are in the medium category with a percentage of 45% in students and 52% in lecturers. The second largest percentage is in the Low category of both lecturers and students. Then the smallest percentage is in the High category as well as in lecturers and students. This shows that the physical activity of the academic community of Surabaya state university still tends to be low, judging from the results of the percentage of categories.

4 Discussion

In general, the level of physical activity of the academic community of Surabaya State University is in the medium category. But in the category of low levels of physical activity also

has a high percentage. This means that the level of physical activity of the academic community of Surabaya state university still tends to be low. Low physical activity is a major risk factor for non-communicable diseases, and has a negative effect on quality of life and mental health [20]. Physical activity is one way to overcome non-communicable diseases such as obesity [21]. The prevalence of obesity continues to increase due to a changing lifestyle with technological advances and the increasingly rampant use of machines, thereby reducing a person's physical activity [22]. Therefore, there must be interventions to encourage a person to be willing to do physical activity in order to maintain their health [23]. Because physical activity can maintain an active lifestyle and is related to health promotion and weight loss [24].

Based on the METs scores obtained from 9 faculties or programs at Surabaya state universities, students of the faculty of sports sciences received the highest average METs scores taken from 292 students. This is because in the lecture process, students are taught to exercise and physical activities. They demonstrated lecture material by doing sports activities so that their physical activity was high enough to have an average METs of 3922.61 minutes per week. In addition, the majority of students of the faculty of sports science are athletes who are still active or former athletes who have joined many sports clubs. So that even outside the campus, they are still actively carrying out sports activities.

Because of the faculty of sports science, the lecture study will not be far from the discussion about the importance of exercising, physical activity and a healthy lifestyle. Therefore, students of the faculty of sports science certainly have good sports literacy and physical activities. With good physical literacy, it will have the results of motor skills, environmental context, and a broader affective social learning process. Physical literacy also plays a role in positive health behaviors [25]. Taggart et al. (2012) also state that health literacy allows people to build their knowledge, skills, and potential to make positive behavioral changes. Improving health literacy is more likely to lead to sustained behavioural change given that lower levels of health literacy are associated with worse health outcomes [23].

Studies show lecturers' METs scores tend to be lower than student METs scores (see fig. 1). This is because lecturers have an older age than students. Sun et al. (2013) stated in his research that older people have a lower level of physical activity than young people [26]. Whereas according to the CDC (2021), parents need to be more physically active to maintain their balance. Exercise and physical activity in the elderly can reduce the risk of death from cardiovascular disease [28]. Physical activity in the elderly can lower the pulse of rest and exercise, lower systolic and diastolic blood pressure and increase stroke volume [29]. For people who are relatively sedentary until middle age, it is never too late because starting to be active in physical activity in old age can significantly improve health [30].

5 Conclusion

The majority of the physical activity levels of lecturers and employees of Surabaya State University in 2021 are categorized as medium. But even though it is categorized as medium, it is also worth noting that the second percentage is the low category. The highest Mets score is obtained by Students of the Faculty of Sports Sciences and for lecturers is the Vocational Program. The recommendation of this study is that the value of the Mets can be used as a reference in compiling programs on the promotion of healthy campuses through physical activity.

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