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Physical activities on campus with minimum exercise facilities

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Abstract

Purpose: The purpose of this model is to discover an idea of physical activity on campus having less than adequate facilities, especially in Poltekkes Karya Husada Yogyakarta. **Method:** This is a review of physical activity on campus, that does not require a lot of facilities. References are taken through articles that are open access from Google Scholar. Keywords used in this review are "physical activity on campus" that were published from 2009-2019. After finding a suitable one, a model was developed with specific references based on the types of physical activity. **Results:** Physical activity that is suitable in minimal campus facilities include walking or cycling to campus, using stairs, and stretching between work and college. **Conclusion:** Stretching in study hours, going up and down the stairs, and cycling to campus are activities that can be performed anywhere without requiring expensive additional facilities. It can result in 43 minutes of physical activity without having scheduled time. This review can be applied for physical activity on Poltekkes Karya Husada and another campus with minimal facilities.

Keywords: physical activity; healthy campus; minimum facility

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INTRODUCTION

The Health Promoting University (HPU) is a program developed by the World Health Organization (WHO) in 1998 through the book "Health Promoting Universities: Concepts, Experience, and Framework for Action". Universities in the ASEAN region that are members of the ASEAN University Network (AUN) have formulated the AUN-Health Promoting University (AUN-HPU) was held in Thailand in August 2016 [1]. Students spent most of their time on campus. More than half their calendars in a year they spend on campus [2]. The number of hours students spend on campus have not been utilized by the university for physical activity, because not all campuses realize the opportunities with minimum effort to achieve them [3].

Physical activity is one of the seven areas recommended through AUN-HPU [1]. Physical activity is the area most widely known by the people of Indonesia compared to other areas. There are several policies related to physical activity, including the Ministry of Health which recommends that each agency conduct physical activities during working hours at 10:00 and 14:00 local time. The campus is one of the places which must be moved to encourage physical activities [2–6]. A campus is a place that has a high level of transient activity, thus reducing the opportunity for students, lecturers and staff to do physical activities [7,8]. Therefore, campuses must also be able to provide the time and facilities for their members to conduct physical activities.

There are three kinds of physical activities that can be done on campus, such as sports (volleyball, tennis), physical activity without tools (walking, jogging, etc.) and sports classes (karate, gymnastics, etc.) [9,10]. To carry out these physical activities, it requires adequate space. Besides adequate facilities, support from leaders and stakeholders is also needed [4]. There are 107 tertiary institutions in Yogyakarta, but not all of them have adequate land to carry out physical activities, one of which is the Health Polytechnic (Poltekkes) Karya Husada Yogyakarta.

Poltekkes Karya Husada is a campus that has a narrow yard and has been used as a parking lot for the lecturers. As a consequence, there is no vacant land that can be used for physical activity. In the present time, there are no sports facilities provided by the campus, both in terms of free space, equipment, and policies. There are no sports facilities other campuses may also experience that in Indonesia. Therefore, the study aimed to explore models of physical activity in places that have minimal facilities.

METHODS

The purpose of this paper is to determine a model that is possible and applicable to carry out physical activities on a campus that has limited facilities. The development of this model was done through a literature search from Google Scholar. Keywords used in this review are “physical activity on campus” that were published from 2009-2019. After obtaining the appropriate literature, the model was adjusted for the Poltekkes Karya Husada Yogyakarta. Poltekkes Karya Husada building consists of three floors with an elongated courtyard with a width of approximately 3 meters. Almost all of these pages have been used for parking for lecturers and staff. Poltekkes Karya Husada is a vocational college with a 60-70% curriculum carried out through practicum. This causes a tight lecture schedule because in 1 SKS the learning of practical methods is carried out within 170 minutes, in contrast to the theoretical methods which are sufficiently carried out in 50 minutes. The lecture schedule starts at 07.30 until 17.10 WIB.

RESULTS AND DISCUSSIONS

Physical activity on campus

The campus has characteristics that cause students to be passive because of the lack of space, teaching and learning processes that require students on campus and lifestyle on campus that narrows the space [4,6]. A tight lecture schedule, learning that only focuses on academic achievement, lack of support from leaders, limited funds and resources and poor quality of learning becomes a barrier to physical activity on campus [6].

Students spend more than half the time in a year on campus [2]. They spent a lot of time studying, doing assignments at the computer, discussing examinations and other academic activities sitting [11,12]. This causes the sedentary student activity to increase and decreases the opportunity to do physical activity [7,8]. Various negative effects will occur if physical activity is low, including overweight, obesity, and even decreased respiratory and cardiac function [13,14]. Long-term effects of decreased respiration and the heart will cause a decrease in the quality of genes that will result in a generation of increasingly poorer health quality [4].

The academic community which has an age range of 18-64 years requires physical activity of 150 to 300 minutes in one week15. If distributed in days, it takes 22-45 minutes to do physical activity in a day. This time

is a short time, but it will be difficult to do if you do not have time priority. Campus with busy activities and various academic pressures reduce student free time to sports. Students prefer to use their days off and free time to watch television and other transient activities, as an effort to make up for fatigue on campus by doing passive activities to relax [6].

Doing physical activity on campus has been recommended by AUN-HPU [1]. WHO recommendations for physical activity at the age of 18-64 years are physical activity between activities, such as utilizing leisure time, carrying out physical activities in transportation (such as walking or cycling), or doing it at work [15]. Physical activity on campus could use sports as part of curriculum [6]. If this is not possible, the Centers for Disease Control and Prevention (CDC) recommends doing it at some time on campus, that is before, after and even during learning [16]. We can also do physical activity on campus at rest, by utilizing 40% of the rest time [5].

Physical activity method

A campus is a place that has a dense activity, both students, lecturers and employees. A method that is suitable for campus activities is needed to implement physical activities on campus, one of which is by using a flexible method. Sports that are simpler / not too difficult and inexpensive are additional options that can reduce obstacles [6,16]. Students like sports that are completed once rather than programmed sports [17]. Besides, sports that make it comfortable will also make it easier for students to be more consistent in doing physical activities on campus [4].

Minimum physical activity that everyone must do is not too long, which is enough with 150 minutes every week. The method that can be done is by dividing it five times a week, by doing it for 30 minutes every day [15]. But until now there is no physical activity model that can be used as a reference [6]. Physical activities that can be used as alternatives on campus are sports that can be done during learning [18]. Physical activity is not necessary to do too heavy because simple physical activity can also have a positive impact on health. Walking for 5 minutes to take a break from work has been proven to be able to control and even lose weight. Some sports options that can be done independently on campus and during time break include stretching, walking, and jogging 9-10 [9,10]. Cycling can also be an alternative in transportation too when and from campus [19].

Based on the recommendations above, alternative physical activities that are possible to be carried out at the Karya Husada Yogyakarta Health Polytechnic are stretching and transporting to campus by bicycle or on foot. In addition, the stairs can also be used as an alternative to walking, given the narrow yard in the Poltekkes Karya Husada area.

Stretch

Stretching exercise has the benefit of making the body more ideal, beautiful and fit [20]. Stretching is useful for relaxing nerves and exercising muscle strength so they don't get tired easily [21]. Exercise can reduce musculoskeletal injuries and increase concentration [22]. When learning takes place, students can do static stretching in their respective seats. Static stretching is a stretch that is done in a defensive position without moving in order to stretch the muscles in the joints [23].

Stretching done in a seat can be done by [22]:

Starting position

The initial position is sitting in a sturdy chair facing forward. Place your palms on your thighs and feet flat on the floor.

Neck and head stretch

Look right two times and left two times until the count of 8. Position your head tilted to the right and left and position up and down with the count as above.

Repeat the above movements three times

Shoulder stretch

Turn your shoulders forward eight counts and backward eight counts. Repeat three times.

Leg stretch

Position your feet flat on the floor, lift your feet down 90 degrees, then lower. Do it until the count of eight.

Go up and down the ankle for the count of eight

Rotate your ankles clockwise until the count of eight.

Rotate the ankle counterclockwise until the count of eight.

Repeat the above movements three times

The results of previous studies indicate that by doing these stretching movements, can reduce musculoskeletal pain [22]. All the above movements are sufficient to be carried out in 4 minutes so that it can be done every 1 hour of learning.

Up and down the stairs

Up and down stairs is an effective exercise to burn fat. In one minute up and down stairs can burn fat as much as 8-11 calories [24]. This method can be done at a speed of 30 steps/minute and carried out for 5 minutes [25].

Cycling

Cycling can be beneficial to maintain health and provide a relaxing effect. Cycling with a distance of 2

km can increase fitness [26]. Cycling can also increase life expectancy [27].

Total physical activity

By doing physical activities above, it can be done time management by stretching every hour of learning. The total time needed for stretching in seven hours of learning is 28 minutes. Up and downstairs can be done at rest. The time needed to go up and down the stairs is enough to use 5 minutes of total rest time. Cycling can be done when departing and returning from campus. If the boarding and campus distance is 2 km, then the total time required to commute from campus is 10 minutes. If you do the above activities, then in a minimum of 43 minutes you have to do physical activities without having to take special hours to exercise.

CONCLUSION

For campuses that have minimal facilities, they can do simple physical activities, such as stretching, walking, going up and downstairs and cycling. Doing physical activity is able to maintain fitness, nerves are more relaxed and burn calories. This activity model is simple, flexible, carried out on a crowded campus and can have the opportunity to do physical activity 43 minutes a day without having to have a specific schedule for exercise. This review can be applied for physical activity on Poltekkes Karya Husada and another campus with minimal facilities.

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