

DETERMINANTS OF PHYSICAL ACTIVITY IN A COLLEGE STUDENTS' ASSOCIATION OF SOUTH SUMATERA INDONESIA

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Abstract: Although physical activity has significant benefits for health, a lot of Indonesian people were not sufficiently active. Indonesian Ministry of Health reported South Sumatera as one of province which has a lot of insufficiently active people (26,7%). It was higher than the average number of insufficiently active people in Indonesia. Thus, examining the determinants is an important prerequisite for designing effective programs. This study investigated predisposing (knowledge and attitudes), enabling (time and facilities availability), and reinforcing (family, friends, and health professional support) factors determined physical activity for the college students in South Sumatera. This study used cross-sectional design. Data were analyzed for 50 members of the college students' association who completed a questionnaire. Result showed 60% of respondents were sufficiently active. Chi square test revealed that knowledge ($p=0,003$; $OR=8,0$), attitudes ($p=0,001$; $OR=21,0$), and facilities ($p=0,012$; $OR=6,5$) had meaningful relationship with physical activity. There was no relationship between time availability ($p=0,636$), family ($p=0,302$), friends ($p=1,0$), and health professional support ($p=0,861$) with physical activity. The findings clarified the factors that determined physical activity in the college students' association were knowledge, attitudes, and facilities. These factors may help in the formulation of intervention strategies to make people more physically active.

Keywords: determinants; physical activity; college students

Introduction

Physical activity can be defined as any activity that involves some form of physical exertion and voluntary movements that burn calories, such an activity causes a person's body to work harder than normal (Zourikian et al, 2012). Physical activity has many potential health benefits, including prevention of various diseases (WHO, 2010). Studies have suggested that physical activity is an effective way to prevent incident functional disability (Tak et al, 2013).

In addition to the physical benefits, there are many psychological and social benefits. In general, physical activity help to increase relaxation, improve self-esteem, build positive self-image, partly due to improved muscle tone and appearance, increase levels of hormones called endorphins (which can help improve mood and enhance feelings of well being), and increase feelings of acceptance and belonging to a group of peers (Zourikian et al, 2012).

Although regular physical activity such as walking, cycling, or participating in sports has significant benefits for health, a lot of Indonesian people were not sufficiently active. Indonesian Ministry of Health reported South Sumatera as one of province which has a lot of insufficiently active people (26,7%). It was higher than the average number of insufficiently active people in Indonesia. Thus, examining the determinants is an important prerequisite for designing effective programs.

Because physical activity is a complex behavior determined by diverse factors, behavioral theories and models are used to guide the selection of variables to study (Bauman et al, 2002). Green theory explained

behavior such as reducing intake of dietary fat, engaging in routine physical activity, and obtaining annual mammograms is shaped by predisposing, reinforcing, and enabling factors (Glanz, 2005).

Predisposing factors, which motivate or provide a reason for behavior; they include knowledge, attitudes, cultural beliefs, and readiness to change. Enabling factors, which enable persons to act on their predispositions; these factors include available resources, supportive policies, assistance, and services. Reinforcing factors, which come into play after a behavior has been initiated; they encourage repetition or persistence of behaviors by providing continuing rewards or incentives. Social support, praise, reassurance, and symptom relief might all be considered reinforcing factors (Glanz, 2005).

College or university is a critical period regarding unhealthy changes in energy related behaviors in students (Deliens, et al, 2015). Physical fitness of youth is generally very low. Many college students told that they hardly spend time in playing outdoor games and exercise (Muduli, 2014). It is a critical to have a better understanding of the contributing factors that influence physical activity among students. Relevant policies and effective interventions that focus on modifying these factors could be designed precisely.

Therefore, this study investigated predisposing (knowledge and attitudes), enabling (time and facilities availability), and reinforcing (family, friends, and health professional support) factors determined physical activity for the college students in South Sumatera.

Method

This study was a quantitative research that used cross-sectional design. Cross-sectional is a point time approach that collect all of the information at the same time.

This study used a questionnaire as the instrument of the research. Respondents were active if they do at least 150 minutes of moderate-intensity aerobic physical activity throughout the week or do at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week or an equivalent combination of moderate- and vigorous-intensity activity. Knowledge and attitudes were measured by 10 questions about physical activity. The questionnaire also contains questions that ask whether respondents have the time and facilities to do physical activities. Family, friends, and health professional support were measured by fifteen items that assessed the typical weekly frequency with which family members, friends, and health professional encouraged physical activity, participated in physical activity with them, provided information about physical activity, or told them that physical activity was good for them.

Data were analyzed for all of active member (50 members) of the college students' association who completed a questionnaire. All variables were self-reported. The data analysis was performed in univariate by descriptive statistic and bivariate by chi square analysis. Chi square was employed to examine the bivariate relationships between the independent variables (knowledge, attitudes, time availability, facilities availability, family, friends, and health professional supports) and dependent variables (physical activity).

The odds ratio (OR) and 95% confidence interval (CI) were calculated for each factor. The statistical significance was considered to be $p < 0.05$. To compute the statistics, SPSS for Windows 22.0 (SPSS Inc.) was utilized.

Results

Results showed 60% of respondents were sufficiently active. Chi square test revealed that knowledge ($p=0,003$; OR=8,0), attitudes ($p=0,001$; OR=21,0), and facilities ($p=0,012$; OR=6,5) had meaningful relationship with physical activity. There was no relationship between time availability ($p= 0,636$), family ($p= 0,302$), friends ($p=1,0$), and health professional support ($p= 0,861$) with physical activity.

Univariate Analysis

Physical Activity

Table 1 The Distributions of Physical Activity Behavior

Physical Activity	n	%
Active	30	60
Inactive	20	40
Total	50	100

Table 1 showed that 60% of the college students were physically active. 40% of students were not sufficiently active.

Knowledge

Table 2 The Distributions of Knowledge about Physical Activity

Knowledge	n	%
Good	24	48
Bad	26	52
Total	50	100

Table 2 showed that almost a half (48%) of the respondents had good knowledge about physical activity.

Attitudes

Table 3 The Distributions of Attitudes about Physical Activity

Attitudes	n	%
Positive	36	72
Negative	14	28
Total	50	100

Table 3 showed that 72% of the college students had positive attitudes about physical activity.

Time Availability

Table 4 The Distributions of Time Availability To Do Physical Activity

Time Availability	n	%
Yes	38	76
No	13	24
Total	50	100

Table 4 showed that only near a quarter (24%) of the college students who did not have time to do physical activity.

Facilities Availability

Table 5 The Distributions of Facilities Availability To Do Physical Activity

Facilities Availability	n	%
Yes	36	72
No	14	28
Total	50	100

Table 5 showed that 72% respondents answered there was facilities that support them to do physical activity.

Family Support

Table 6 The Distributions of Family Support To Do Physical Activity

Family Support	n	%
Yes	48	96
No	2	4
Total	50	100

Table 6 showed that almost all of member of the association (96%) supported by their family to do physical activity.

Friends Support

Table 7 The Distributions of Friends Support To Do Physical Activity

Friends Support	n	%
Yes	46	92
No	4	8
Total	50	100

Table 7 showed that 92% of respondents got support from their friends to do physical activity.

Health Professional Support

Table 8 The Distributions of Health Professional Support To Do Physical Activity

HP Support	N	%
Yes	22	44
No	28	56
Total	50	100

Table 8 showed that 44% of respondents got health professional support to do physical activity.

Bivariate Analysis

Bivariate analysis in this study use Chi Square test. Chi square was employed to examine the bivariate relationships between the independent variables (knowledge, attitudes, time and facilities availability, family, friends, and health professional support) and dependent variables (physical activity).

Table 8 *The Relationship between Independent and Dependent Variables*

Variables	P value	OR
Knowledge	0,003	8,0
Attitude	0,001	21,0
Time Availability	0,636	1,7
Facilities Availability	0,012	6,5
Family Support	0,302	1,0
Friends Support	1,0	1,5
Health Professional Support	0,861	1,3

Chi square test revealed that knowledge ($p=0,003$) had meaningful relationship with physical activity. The results showed that the students with good knowledge had more chance to be sufficiently active than the students who had bad knowledge about physical activity.

The analysis presented the significant relationship between attitudes with physical activity ($p=0,001$). Overall, those who had positive attitudes about physical activity were significantly more likely to be categorized in the sufficiently active group than those who had not. Further, facilities had meaningful relationship with physical activity ($p=0,012$). The availability of facilities was an important thing to make people more physically active.

On the other hand, there was no relationship between time availability ($p= 0,636$), family ($p= 0,302$), friends ($p=1,0$), and health professional support ($p= 0,861$) with physical activity.

Discussion

This study conducted at a College Students' Association in South Sumatera, Indonesia where 50 students had participated. Among the 50 participants, 25 were male and 25 were female respondents. The age ranges of the students vary from 18 to 25 years with an average age of 21 year. More than half respondents were sufficiently active (60%).

This study revealed that knowledge about physical activity had meaningful relationship with physical activity ($p=0,003$; $OR=8,0$). About 52% of students had bad knowledge about physical activity. Another study declared that lack of student efforts to increase physical activity in supporting an active lifestyle, this is due to lack of knowledge regarding an active lifestyle (Firdaus, 2015).

The analysis presented the significant relationship between attitudes with physical activity ($p=0,001$). The present study agrees with earlier studies confirming attitudes as the factor that contributed to the lack of physical activity of students (Firdaus, 2015).

Facilities had meaningful relationship with physical activity ($p=0,012$). The availability of facilities was an important thing to make people more physically active. People with better access to more natural or man-made facilities were 43% more likely to exercise most days of the week, compared to those who did not have such access (Quebec, 2011).

Conclusion

In summary, more than half of the college students' association members were sufficiently active. The findings clarified the factors that determined physical activity in a college students' association of South Sumatera were knowledge, attitudes, and facilities. Therefore, health promotion about physical activity could be a good solution to enhance physical activity behavior among college students. Furthermore, the availability of facilities was an important thing to make people more physically active. These findings factors could be an

information that have public health implications for designing interventions to increase participation in physical activity.

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