

## Analyzing the Association between Physical Activity and Sleep Quality in College Students: Cross-Sectional Study

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**Abstract :** To rest the body after a full day of activities, the body needs sleep. During sleep, the body's response to external stimuli will be reduced and relatively inactive so that it is used to optimize the body's biological functions that cannot be done when awake. College students often experience poor sleep quality because of the dense activities carried out during the day. In addition, the level of physical activity of college students is also relatively low. Based on previous research, college students who have low physical activity have poor sleep quality. Therefore, the purpose of this study was to determine the relationship between physical activity and sleep quality in college students of the University of Muhammadiyah Prof. Dr. Hamka. This study used a cross-sectional research design with 107 respondents as research subjects. Samples were taken using the purposive sampling technique. The data was taken using a google form which was distributed to all college students in September 2021. The statistical test used was Chi-square. The results of this study showed that 85 (79.4%) college students experienced poor sleep quality during the Covid-19 Pandemic Period. Most respondents were 96 women (89.7%) and 32.7% (35 people) aged 20 years. In the pocket money category, most college students (71%) got pocket money less than 500.000 rupiahs per month. A total of 52 respondents (48.6%) had a moderate level of physical activity category. Poor sleep quality was more common in male students (90.9%) compared to female students (78.1%) ( $p>0.05$ ). In the group with poor sleep quality, 88.9% of students were categorized in Rp. 500.001 to Rp. 1.000.000 for pocket money, 80.3% of students included in the category Rp. 500.000 or less, and 61.5% of students are included in the category of Rp. 1.000.000 or more. Poor sleep quality was more common among students in the age category 20 years (84.1%), compared to students in the age category  $> 20$  years (71.1%). For the level of physical activity in the poor sleep quality group, 87% were included in the category of heavy physical activity, 82.7% included in the moderate level of physical activity, and 68.8% included in the category of low-level physical activity. There was no significant relationship between gender, pocket money, age, and physical activity with sleep quality ( $p>0.05$ ).

**Keywords :** college students, physical activity, sleep quality, university students

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