**THE EFFECTS OF SLEEP AND EXERCISE ON MENTAL HEALTH**

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**BACKGROUND:**

Sleep deprivation among *adolescents* has been a long recognized problem. It is well known that *sleep* and *exercise* affect one’s *mental health*. However, knowing and doing are two different things, especially for teenagers. Through this study, we wanted to observe if having an activity tracker (Fitbit) would encourage students to change their behaviour by sleeping and exercising more to improve their overall mental health; and instill a lasting lifestyle change.

**METHODS:**

We recruited high school students in San Francisco. Participants completed an initial PHQ-9 (Patient Health Questionnaire-9), a standard mental health survey, and were asked to log their hours of sleep and exercise for two weeks. Participants were required to watch a video, where a physician spoke about the importance of sleep and exercise and its correlation with mental health. After the video presentation, participants were required to log their hours for another two weeks. Fitbits were then distributed to the participants, and after another two weeks, the participants filled in another PHQ-9 survey.

**RESULTS:**

50 students were recruited for the study, but only 38 completed the study with all the required questionnaires. While wearing the Fitbit, the amount of sleep increased by 10 minutes, but exercise remained about the same. After the physician presentation, 40 students returned the post-talk questionnaire; 25 students reported positive effects on their sleep and exercise habits; 14 reported no effect; and 1 reported a negative effect. Students slept more by an average of 22 minutes and exercised an average 11 minutes more after the talk. 16 students showed improved PHQ-9 scores at the end of the study; 6 showed no change; and 11 students showed worse PHQ-9 scores.

**CONCLUSIONS:**

The study provides important pilot data on the feasibility of studying the relation of exercise intervention and sleep quality in adolescents. Our results showed a slight improvement in the mental health of participating students, but the group size was too small. These data will guide the design of future research to fully understand integrating activity trackers as a means of improving sleep and activity in relation to mental health.

**CONTENT CATEGORY:** Clinical science (trials)

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