Original Article:
The Impact of Physical Activities on the Academic Performance of Medical Students

Authors
Satheesha Nayak B, Professor,
Sonia Anne Miranda, Medical Student,
Ozri Jon bin Fitzrol, Medical Student,
Lawrence Anthony, Medical Student,
Gowrish Rao S, Selection Grade Lecturer,
Ashwini Aithal P, Lecturer,
Melaka Manipal Medical College (Manipal Campus), Manipal University, Madhav Nagar, Manipal, Karnataka State, INDIA.

Address for Correspondence
Ashwini Aithal P,
Department of Anatomy
Melaka Manipal Medical College (Manipal Campus)
Manipal University
Madhav Nagar, Manipal, Udupi District
Karnataka State, INDIA 576104.
E-mail: ashwini.anat@gmail.com

Citation

Open Access Archives
http://cogprints.org/view/subjects/OJHAS.html
http://openmed.nic.in/view/subjects/ojhas.html

Submitted: May 25, 2016; Accepted: Jul 15, 2016; Published: Jul 30, 2016

Abstract: Background: Physical activity is considered to be correlated with academic performance of students by many researchers. In recent years this concept is gaining high importance especially in professional education system. Hence the objective of our research was to evaluate the correlation between the effects of physical activities on the academic performance of medical students studying in our college.

Methodology: This was a cross sectional study in which 210 medical undergraduate students participated. Ethical clearance was obtained prior to the study. A questionnaire was distributed to the students and the responses given by them were then analyzed.

Results: Results showed that most of the students agreed that there exists a correlation between physical activity and academic performance as their scores were higher compared to students who do not involve in physical activities.

Conclusion: Findings from our study suggest that physical activities increase student’s focus and might help them to succeed academically.

Key Words: Physical activity, exercise, academic performance, medical students, learning

Introduction:
Physical activities help students to develop knowledge, attitudes, motor and behavior skills which are required to maintain physically active lifestyle. Medical and health sciences students represent an important segment of our youth population. Since medical education is considered stressful due to voluminous academics and demands total dedication towards studies, it leaves minimal opportunity for the students to relax and recreate. Because of this students face social, emotional and physical problems, which in turn, may affect their learning ability and academic performance. Health surveys involving population-representative samples of children and adolescents observed statistically significant positive correlations between physical activity participation and academic performance. However, none of these studies assessed academic performance with standardized educational tests. During our literature review we found minimal studies which correlate the involvement of medical students in physical activities and their academic performance. Slade et al in their study have found that physical activity is unfavorable or adversely affects academic achievement, even if physical activity is not always found to improve achievement. Hence the objective of our research was to evaluate the correlation between the effects of physical activities on the academic performance of Melaka Manipal Medical College students.
Methodology

Sample size: This is a cross sectional study based on random sampling method. A total of 210 medical undergraduate students, comprising of 114 male students and 96 female students aged 17-19 years participated in this study and the response rate was 100%. The students belonged to three different Malaysian ethnic races i.e. Malays, Chinese and Indians (Malaysian Indians) and were chosen randomly. Ethical clearance was obtained from the institutional research committee, prior to the study and the students gave their informed consent before taking part in this study. Participation was purely on voluntary basis.

Data collection: Questionnaires were used in the study. The questionnaire was framed with reference to similar previous studies. The questions were modified according to our objectives and it included questions which assess the student’s perceptions regarding the effect of physical activities on their health and academic performance. This questionnaire constituted of 11 closed ended questions which was validated by academic faculty. It also included student’s demographic data and graded evaluation of their academic performance during the academic year. This questionnaire was then distributed to the students and the responses given by them were then analyzed. The marks obtained by the students were grouped into 3 categories: Above average marks (< 70%), average marks (60-70%) and pass marks (50-60%).

Data analysis: All the data which was obtained after evaluating the questionnaires was segregated according to gender. Analysis of the data was done using percentage. The results obtained were represented as tables, bar charts and pie charts using Microsoft Excel 2007.

Results

Each graph represented here either corresponds to a series or to a particular question in the questionnaire or represents important data obtained from the study. Graph 1 shows the percentage of students who participated in physical activities. We have found that a majority of the students, 92 (81%) male and 71 (74%) female students took part in various physical activities like outdoor and indoor sports, walking, jogging and workouts in fitness centers etc. It was observed that percentage of male students participating in physical activities was higher when compared to females. When we checked the frequency with which the students involved themselves in various physical activities, we found that most of the male students carried out physical activities more than three times a week (34 students). Females however, mostly participated about twice a week in various physical activities (Graph 2). According to the results obtained from our study we found that most students, both male (58%) and female (35%), preferred to participate in physical activities after class. They felt that such activities helped them to relax and they felt revitalized. Students also opined that involvement in physical activities increased their level of concentration in class and they were more confident to face academic challenges (Graph 3). Our next important observation was that most of the students agreed that there exists a correlation between physical activity and academic performance which was evident when we compared the marks between the students who were involved in physical activities with those who weren’t. Students who participated in physical activities scored average (55%) and above average marks (28%) while students who dint perform any physical activities mostly scored average (68%) and pass marks (21%) (Graph 4).
Discussion

Regular physical activity not only reduces the stress level but also has a beneficial effect on body as well as mind. Students of professional courses especially medical students are under a lot of stress due to voluminous academics and hence they dedicate most of their time to academics and very less importance is given to physical activities. Several studies have been conducted in the past to assess the relationship between physical activity and academic performance. However, these studies focused mainly on the school students and adolescents.(9-11) The point to be noted here is that in schools there is a session everyday where children involve themselves actively in various physical activities. This is the major differences between the above studies and ours as in our study the participants are medical college students who often do not get time to involve themselves in such activities nor is there a regular sports curriculum. There was a similar study conducted in the past which postulates that physical activities have a positive effect on academic performance of medical students.(12) Even they opine that studies involving professional students are very limited. Based on the results obtained from our study, we found that a majority of the students took part in physical activities. This group of students believed that physical activities have a positive impact on their academic performance by means of an increase in concentration and level of cognitive activity. However a minority of students opposed this fact. Few of these students did not take part in any activity due to time constraint while few were not interested as they believed that physical activities does not have a positive effect on their academic performance. It is important to note that brain function may indirectly benefit from physical activity due to increased energy generation.(3) The examination of the connection between physical activity and cognitive function is a popular topic of research nowadays. It is believed that benefits of exercise are not only physical but integrate connections within the brain to stimulate new pathways, which inevitably speed up the learning process.(13) A research was conducted to assess the concentration level of students after their completion of class room lesson and again after their participation in sports for 15 minutes. The scores of the concentration tests were then compared and the results indicated that after their participation in sports the students obtained better concentration scores.(14) This finding is similar to ours wherein students felt that physical activity increased their level of concentration.

Studies have indicated that cognitive abilities increase progressively in childhood and improvements peaks during late adolescence and early adulthood.(15) Similarly, gradual decline is seen in cognitive abilities after middle adulthood.(16) Since the medical students are in their peak phase of cognitive improvement, it is necessary to stress the importance of physical activities among them so that it can aid them in academics and in general wellbeing. This fact is supported by the above studies which suggest that physical activity and aerobic fitness are associated with better achievement in academics and present with a lower risk for cognitive decline and dementia. Future research in this regard is needed to demonstrate how much and what type of exercise best improves neurocognitive function. Regular physical activity for students in the form of sports and extracurricular activities not only benefit them physically, but also mentally. It imparts desirable behavior and transforms them into a successful and responsible adult in the society.(17) Researchers opine that these findings will encourage modifications in educational policies that will increase physical activity during the routine academics (18) because it has been found that physicians’ personal exercise practices influence their clinical attitudes and practices.(19)

This new field of research is still in its infancy and many questions remain unanswered on the positive role physical activities play for students in a learning environment. Any demonstrated relationship to academic performance is an important finding as its effect on students’ academic achievement is critical and therefore it has been given a lot of importance in today’s competitive world. There are few limitations in our study like our study population was aged between 17-19 years and all were in their first year of medical education. Their perspective might change as they proceed to the para clinical and clinical studies which we could not compare. These findings cannot be generalized as there are different teaching modules and exam schedules across different institutions and courses and hence the results might vary.

Based on the results of the present study, it can be suggested that professional colleges and universities should focus on the facilitation of physical activities for students, through either outdoor or indoor opportunities. This can be implemented through active recreation and intramural sports program.(20)

Conclusion

Physical activities and academic performance are related proportionally and it bears a positive influence on the education of the youth. We perceive that these activities increase student’s focus on studies and help them to succeed academically. The findings of our study suggest that physical activities may bring about positive changes in student’s health and behavior.

References

12. Elmaged MA, Mossa AH, Sami MM, El-Marsafawy TS, Jadaan OA, Mudawi MSE. The impact of physical...


