

Body weight dynamics, cardiorespiratory fitness, chronotype and dietary habits among medical students

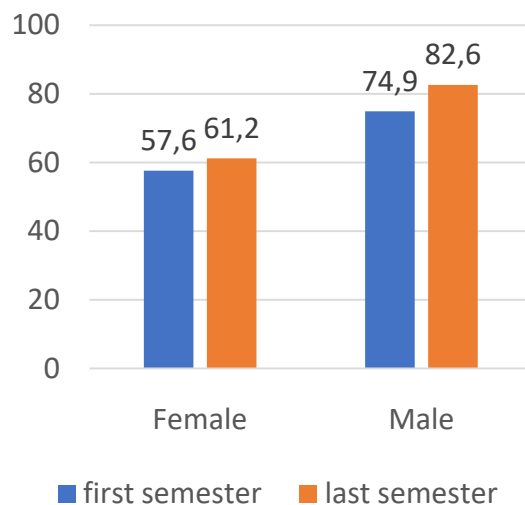
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Background and aims. Low physical activity and unhealthy diet are the most prevalent factors related to the health. Previous studies suggest association between obesity and evening chronotype.

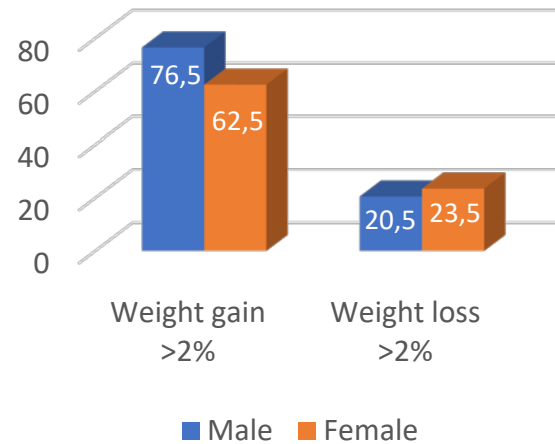
Frequent consumption of fast food can be a cause of impaired performance and may be related to lack of time to prepare meals at home, which may be particularly common among medical students.

We aimed to examine the weight change, cardiorespiratory fitness, chronotype and dietary habits in the last year medical students.

Body weight, kg.



Weight gain and loss, %



Methods. Students (n=98; 66 females and 32 males) aged 23-25 yrs during lockdown in spring 2020 completed survey including questions related to eating habits, body weight dynamics and online Horne-Ostberg morningness-eveningness questionnaire. Danish step test has been done online <https://www.health-calc.com/fitness-tests/the-danish-step-test>.

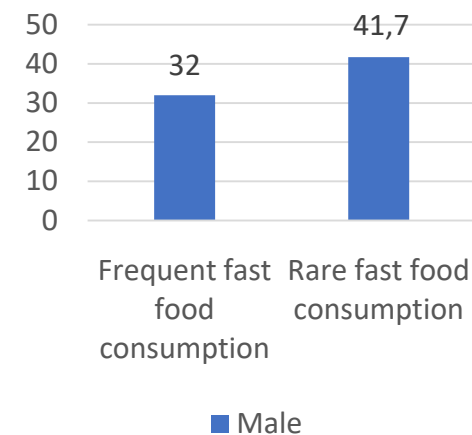
Results. The mean body weight in females increased (M±SD) from 57.6±9.6 to 61.2±10.5 kg (p=0.043), in males from 74.9±12.5 to 82.6±13.2 kg (p=0.023).

Weight gain >2% from the first to the last semester reported 76.5 % of males and 62.5 % of females, weight loss >2% - 20.5 % and 23.5 % of students.

VO2max was below average in boys (39.4±12.2 ml/min/kg) and below average in girls (36.5±7.7 ml/min/kg). Young people who visited fast food restaurants every day or several times a week had an average VO2max of 32±10.7 (ml/min/kg), while students who did not eat fast food at all or more than once a week had an average VO2max of 41.7±12.2 (ml/min/kg).

The most prevalent chronotype was intermediate (66.7 % of males and 59.4% of females).

VO2max, (ml/min/kg)



Fitness was normal in females and slightly lowered in males. Every day consumed carbonated drinks 20.6% of males and 11.8% of females; and fruits, accordingly, only 54.5 and 57.5%. Correlation analysis revealed negative relationships of fitness with weight and fast food consumption in both sexes and positive – with fruit consumption in females. Evening type individuals had significantly lower cardiorespiratory fitness.

Conclusion. Future doctors are at risk of well-known risk factors while studying in the university. Young men who regularly consume fast food show lower average VO2max values, while the average VO2max is typical for those who have given it up or rarely eat these foods.



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