

Diet and physical activity of university students during COVID-19 pandemic measured by semi-quantitative food frequency questionnaire

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Background

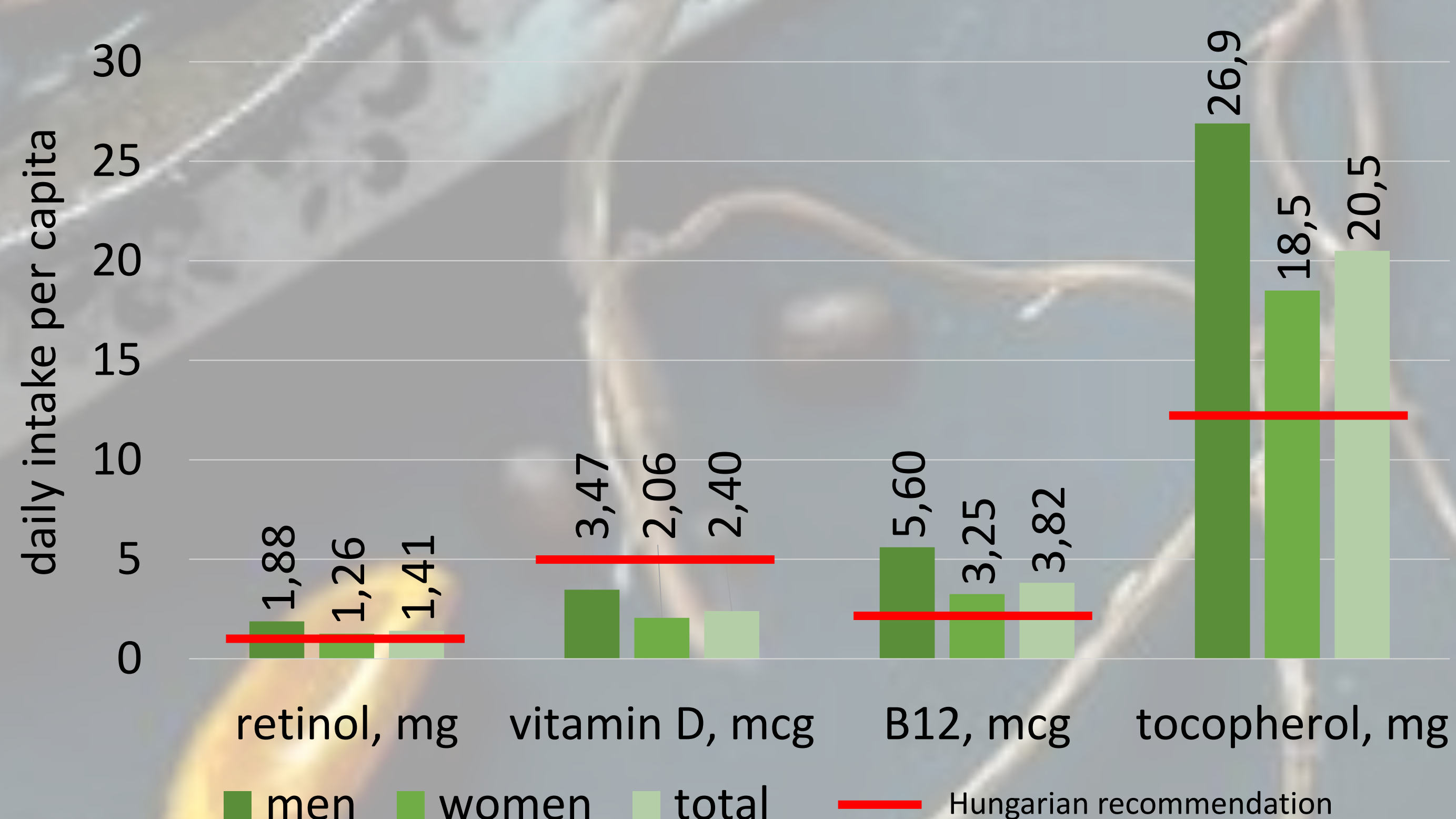
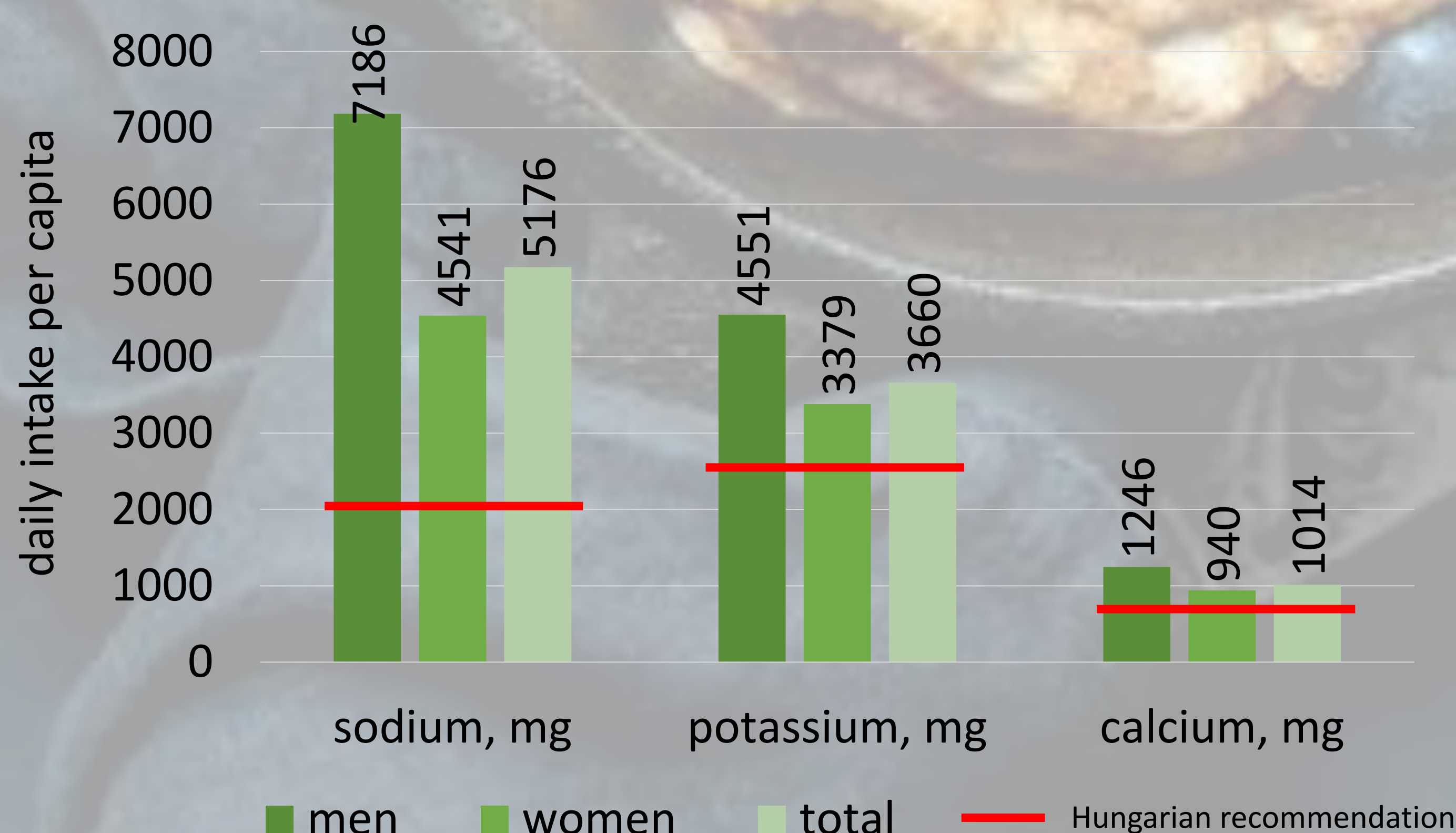
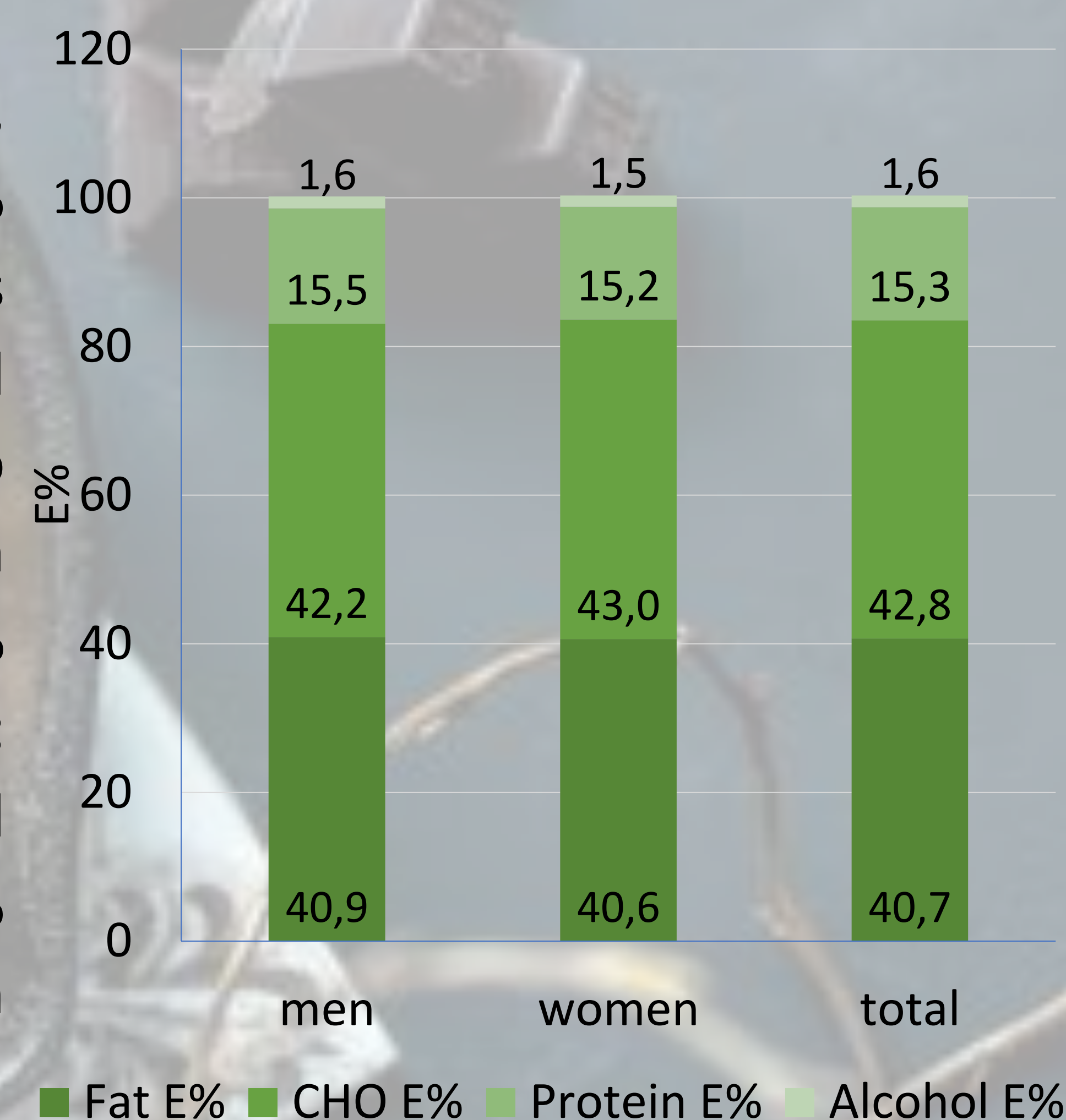
Since March 2020, coronavirus disease (COVID-19) has been spreading steadily, resulting in overwhelmed health-care systems and numerous deaths worldwide. To counter these outcomes, many countries introduced strict lockdown measures, requiring the temporary closure of all but essential sites and causing an unprecedented disruption of daily life. This study aimed to evaluate the dietary habits and physical activity among university students at Budapest Business School (Budapest, Hungary) during the period of lockdown due to the first and second waves of the COVID-19 pandemic.

Materials and Methods

Data collection for measuring dietary habits was carried out by an online electronic semi-quantitative food frequency questionnaire (SQFFQ)¹, capable of collecting information in a convenient, efficient and reliable manner. The SQFFQ inquired demographic information (age, gender), anthropometric data (reported weight and height) and dietary habits information (daily intake of certain foods, food frequency). Physical activity of the respondents was assessed by the International Physical Activity Questionnaire (IPAQ)². Nutritional status of the subjects was classified according to WHO (2003). The survey was conducted in spring and in autumn in 2020. University students with Hungarian mother language, studying at BBS on full-time BSc programmes in the field of economics were involved in the study.

Results

Two hundred seventy-five students completed the SQFFQ and IPAQ (24% men, 76% women). Overweight was twice as common among men as women (21.0 % vs 10.5%), and obesity rate was also higher among men than women (7.6% vs 5.2%). The average energy intakes for men and women were 3699 kcal/day and 2428 kcal/day, respectively. The ratio of the main energy-providing nutrients to total energy was nearly the same in men and women. Similar to data from previous population-level nutritional measurements in Hungary, fat energy% (men: 40.9 E%, women: 40.6 E%) was higher and carbohydrate energy% (men: 42.2 E%, women: 43.0 E%) was lower than national and international recommendations (fat: <30E%, carbohydrate: 55-75 E%, protein: 10-15 E% according to WHO). Saturated fatty acids provide more energy (12.3 E%) than the recommendation (<7 E%).



Dietary sodium intake was extremely high both in men (7186 mg/day) and women (4541 mg/day). Calcium intake was sufficient in men (1246 mg/day) and women (941 mg/day), as well. Vitamin D intake was significantly lower than the recommendation both in men and women (3.47 and 2.06 µg/day). No gender differences were observed in terms of physical activity, average energy intake did not increase with increasing physical activity, in either gender.

The known and unhealthy eating pattern of the Hungarian adult population was also recognizable in the case of the SQFFQ measurement among university students during covid pandemic.

¹Biró, L., Gee, J. 2011. Development of a flexible, updatable, user-friendly electronic food frequency questionnaire. *Acta Alimentaria*, 40.1. 117–127.

²<https://sites.google.com/site/theipaq/>