

(P02-021-20) Lycopene Quantity and Sources in the Diet of Healthy Young People

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Objectives

Lycopene is a major dietary non-vitamin carotenoid, which has a high number of conjugated dienes, and known as a powerful antioxidant and radical scavenger. The present study was designed to assess the level of lycopene intake and to describe which food sources contribute the most to intake.

Methods

Lycopene's level and its main food sources were assessed using the 24-hour recall method. Periodicity of intake food sources were assessed using a specialized Food Frequency Questionnaire applying the carotenoids database from the USDA. A survey was conducted among 122 students in age group 20 to 28 years (21.86 ± 1.12) and included 89 females and 33 males.

Results

Only 43.4% respondents have achieved the recommended level of lycopene (12.64 ± 8.57 mg/day). In this group the following sources of lycopene were presented: red raw tomatoes (47.2%), fast food products – pizza, lasagna, pasta (18.9%), ketchup (15.1%), watermelon (11.3%), tomato juice (5.6%), pink and red grapefruits (1.9%). For 14.7% students the intake of lycopene in the diet was more than half of the recommended level. The main sources of lycopene in this group were red raw tomatoes (61.1%), pizza, sandwiches (33.3%), and ketchup (5.6%). For 15.6% participants the dietary intake of lycopene was less than half of the recommended level. In this group, the major sources of lycopene were the following: ketchup (21.3%), soup and sandwiches (21.1% each), red raw tomatoes (15.8%), canned fish in tomato sauce (10.5%) and tomato juice (5.2%). A quarter of respondents had no sources of lycopene in their diet. An assessment of the results of survey of 122 students revealed that 91 respondents included red raw tomatoes in weekly diet (9.0% – 6-7 times a week, 47.6% – 3-5 times a week, 18.0% – 1-2 times a week). The weekly diet of more than a third of respondents contained tomato-based sources of lycopene: pizza (47.5%), ketchup (46.7%), cheeseburger (34.4%) and hamburger (17.2%). Thus, the significant number of study participants did not include tomato juice (55.7%), red tomatoes (49.1%), persimmon (45.9%), pink or red grapefruit (41.0%).

Keywords

Keywords: Carotenoids, Dietary assessment
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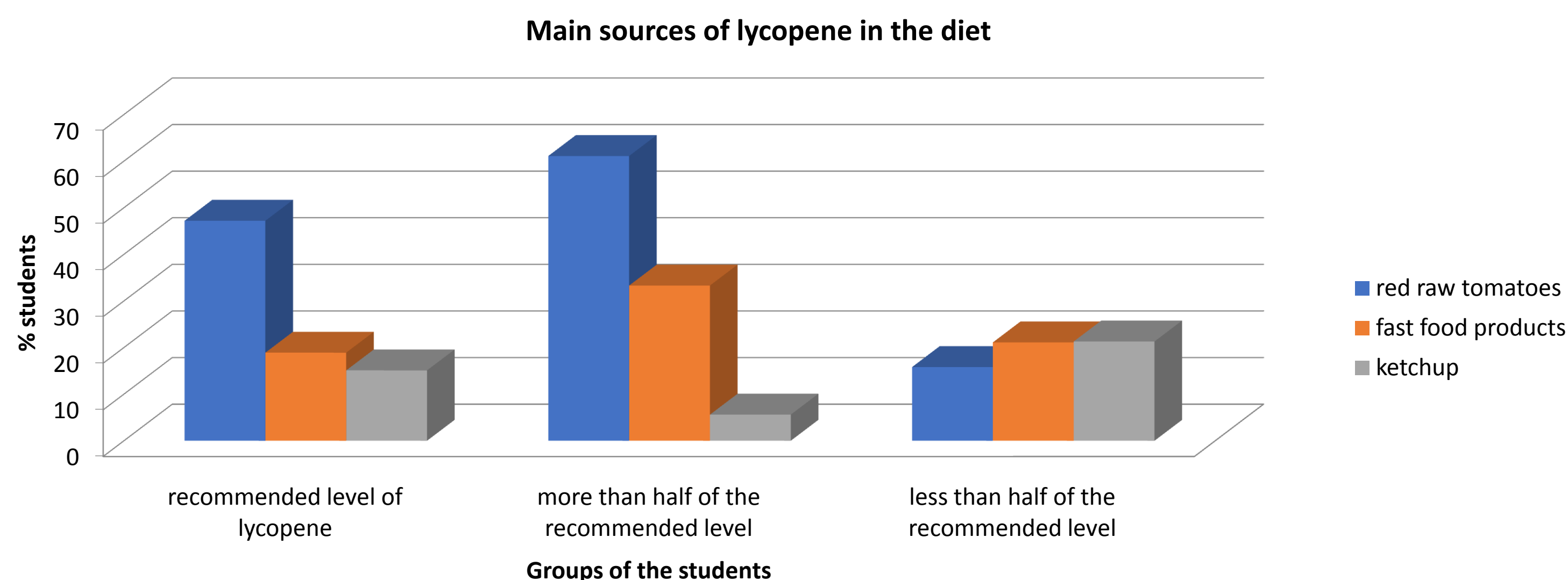
Conclusions

The recommended quantity of lycopene intake was achieved by including raw red tomatoes and tomato-containing products in the diet. Additional sources of lycopene (watermelon, red and pink grapefruits, persimmon) in the diet of most students were absent.

Similar articles

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3. Korolev, A. A.; E. V.; Kirpichenkova, E. I.; Nikitenko, E. L.; Denisova, et; al. 2019. Study of lycopene intake in overweight and obese young people. *Obesity Facts* 12 (suppl 1): 149. doi:Doi:10.1159/000489691.

Fig. 1 Main sources of Lycopene in the diet different student's groups



<https://testslab.ru/images/fevral/8.jpg>

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