

Edible oils in the diet of high school students: How judo training and physical activity shape healthy habits.

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INTRODUCTION & AIM

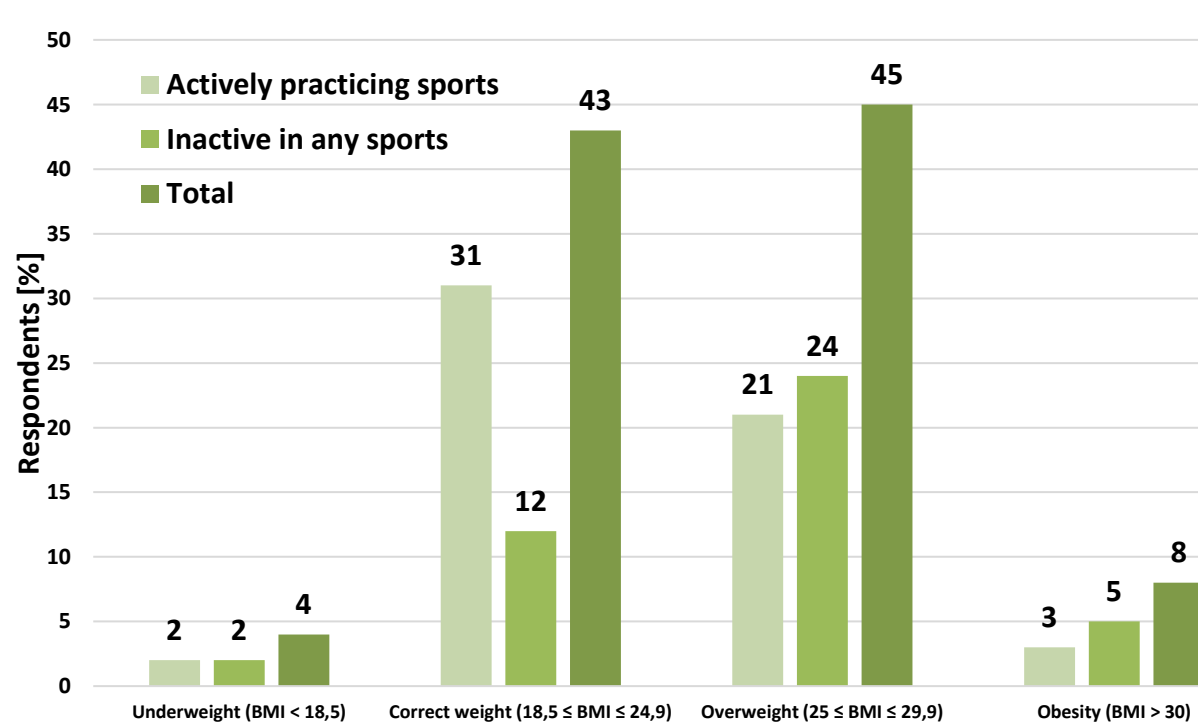
The daily diet of high school adolescents depends on their level of physical activity. Students who engage in sports, such as judo, require more energy, protein, and micronutrients to support muscle recovery and overall health. Adjusting the diet to the intensity of exercise is crucial for ensuring the appropriate amount of calories, hydration, and nutrient balance. Edible oils are crucial in the diet of high school students; the fatty acids they contain aid in muscle recovery after judo training and support heart and brain health. They also facilitate the absorption of fat-soluble vitamins, which is essential for both active athletes and physically inactive students. Regular consumption of edible oils contributes to maintaining a balanced diet, healthy cholesterol levels, and counteracting inflammatory conditions.

The aim of the study was to analyze the role of edible oils in the diet of high school students, both those who regularly practice judo and those who do not engage in additional physical activity. It was hypothesized that judo practitioners would have different nutritional needs and benefits compared to non-athletes.

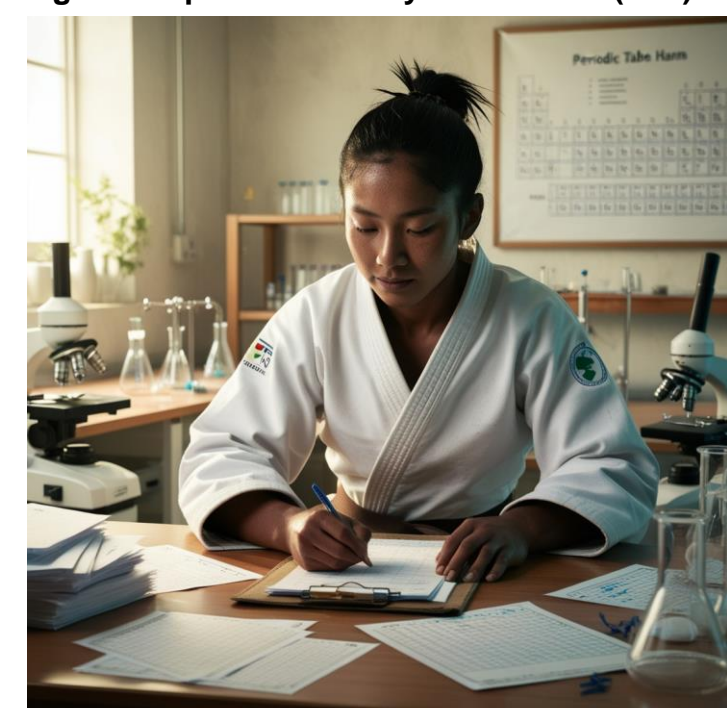
METHOD

The study employed a questionnaire to assess dietary views and habits, KomPAN data processing procedures, and the International Physical Activity Questionnaire (IPAQ) to evaluate physical activity. From August to September 2024, a survey was conducted with 100 high school students (48 females and 52 males). Among the respondents were 57 students actively practicing sports in a specific discipline (16 women and 41 men) and 43 inactive in any sports discipline (32 women and 11 men). Of those active in a given sports discipline, 43 students practice judo, and 14 are active in other sports disciplines, such as running, Brazilian jujitsu, karate, basketball, football, volleyball, and boxing. Respondents were divided based on their sports activity, forming two groups: actively practicing sports and inactive in any sports. The survey employed the CAWI method, ensuring anonymous and voluntary participation.

RESULTS & DISCUSSION



Pict. 1. Made using Leonardo AI prompts.



Pict. 2. Made using Leonardo AI prompts.

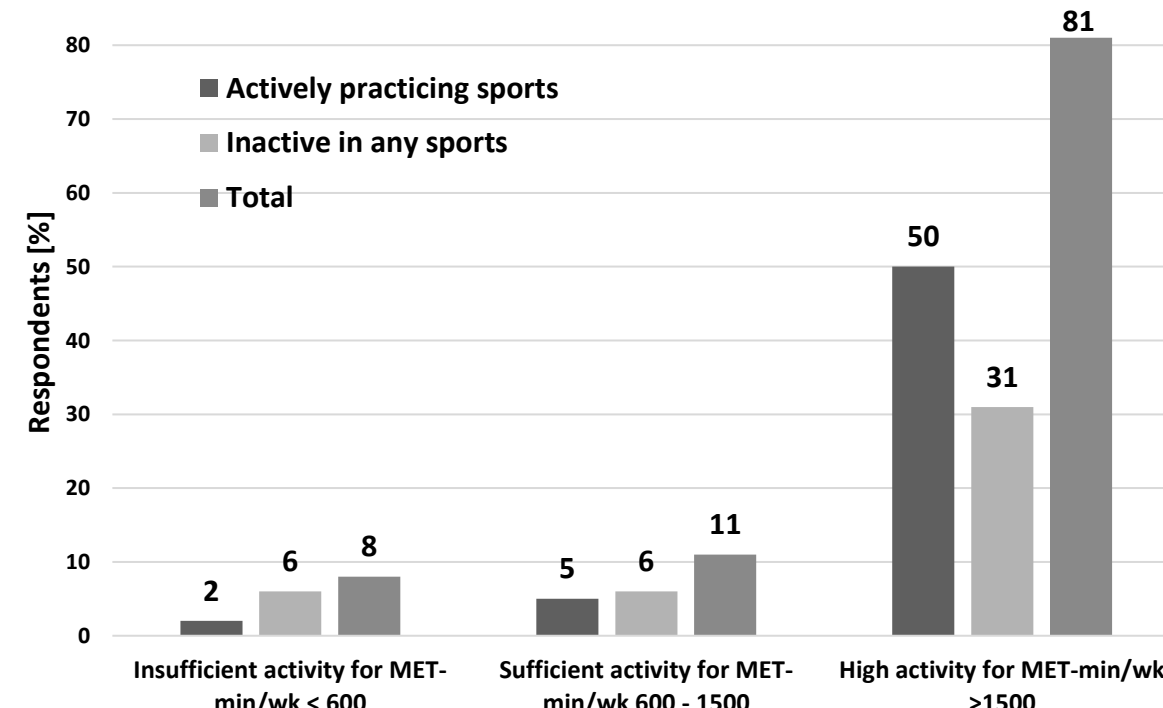


Fig. 2. Respondents' level of physical activity according to IPAQ.

REFERENCES

- Biernat, E., Stupnicki, R., & Gajewski, A. K. (2007). International physical activity questionnaire (IPAQ)—Polish version. *Phys. Educ. Sport*, 51(1), 47-54.
- Kosendiak, A. A., Wasilewski, A., Kasprzak, A., Marczyński, P., Brawańska, K., & Chwałczyńska, A. (2024). Level of knowledge, nutritional habits, use of stimulants, and physical activity during the COVID-19 epidemic among students of physiotherapy at Wrocław Medical University. *Nutrition*, 117, 112247.

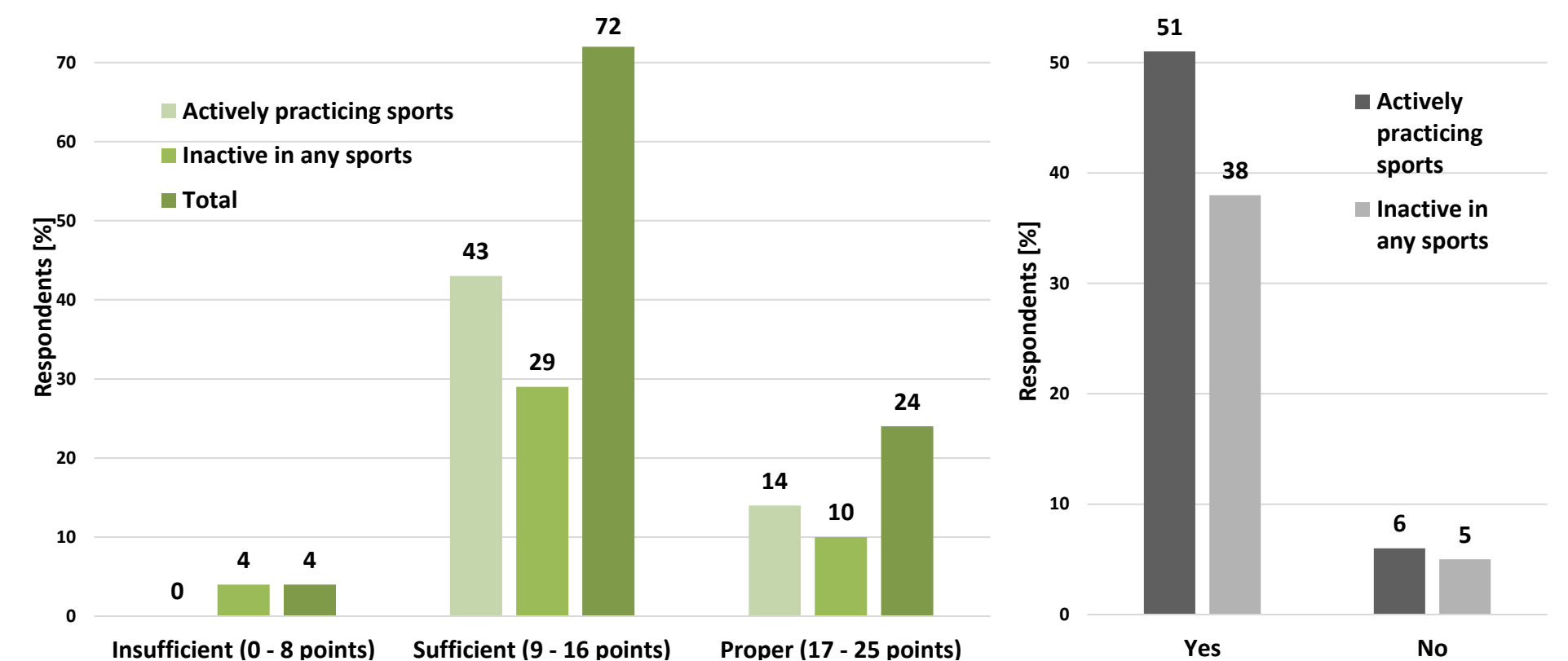


Fig. 3. Level of nutritional knowledge of respondents according to the KomPAN questionnaire.

Fig. 4. Respondents' declarations regarding the consumption of edible oils.

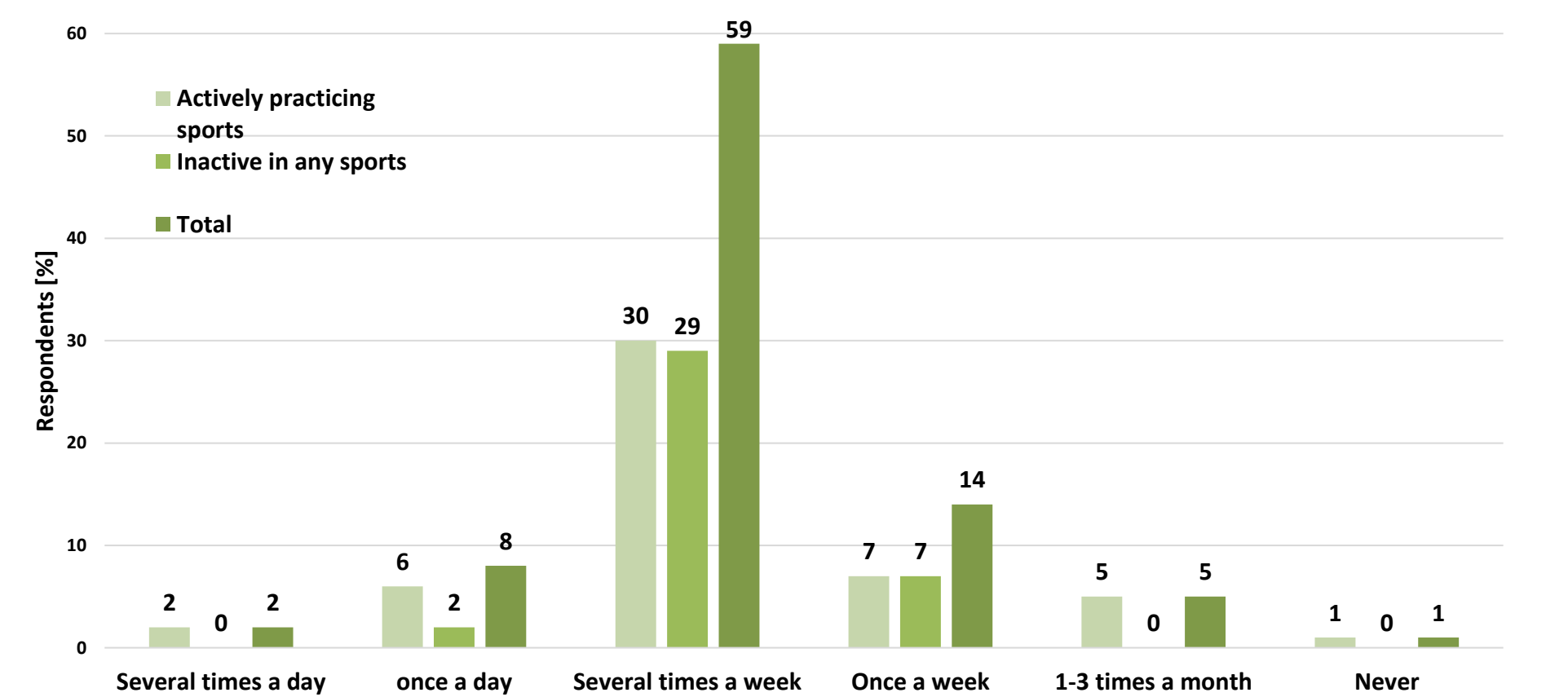


Fig. 5. Frequency of oil consumption by respondents.

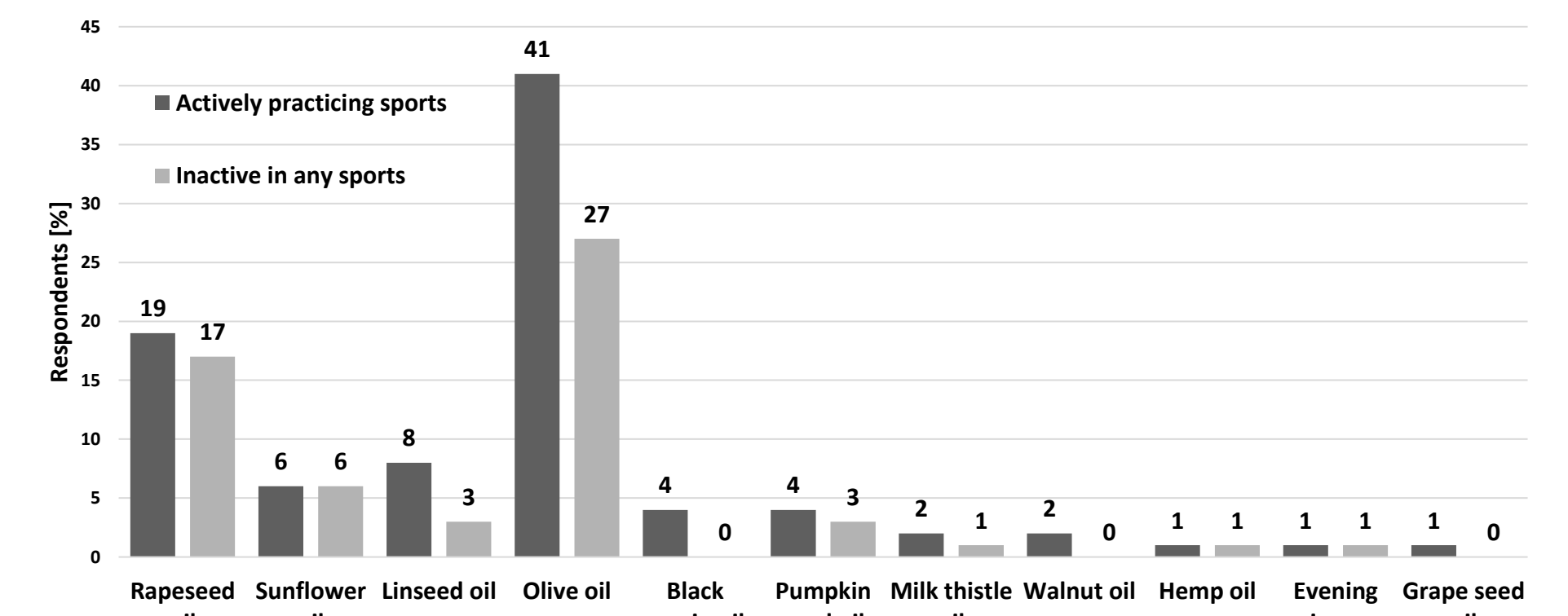


Fig. 6. Types of edible oils consumed by respondents.

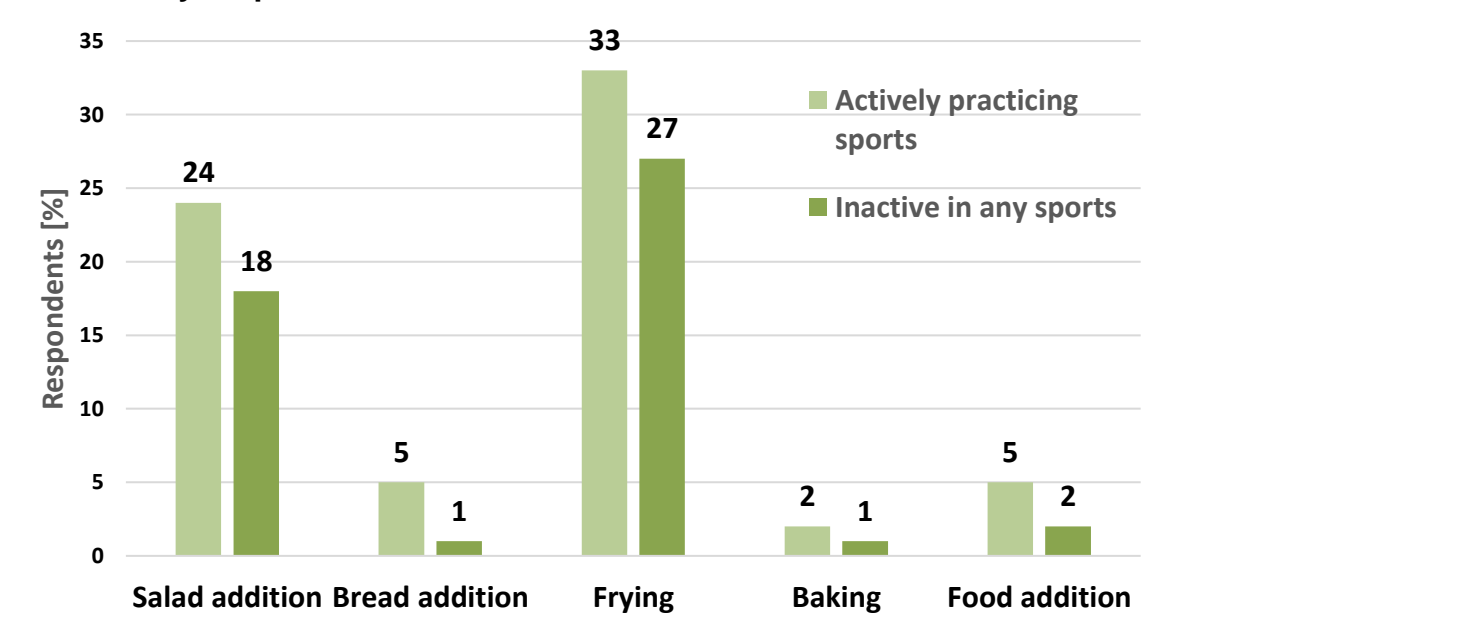


Fig. 7. Purpose of oil consumption by respondents.

CONCLUSION

- Students who are active in sports have a better BMI than their peers who are not active in sports. 55% of respondents who are active in sports have a healthy weight compared to 28% of students who are not.
- 89% of sports-active respondents demonstrate high physical activity, as calculated using the IPAQ.
- Physically active students demonstrate a higher level of knowledge about food and nutrition at a sufficient and suitable level (57% of respondents) compared to their physically inactive peers (39%).
- 51% of physically active students consume edible oils, including niche ones, about which they demonstrate knowledge, compared to 38% of their physically inactive peers who primarily consume traditional edible oils.
- Sports-active respondents use edible oils mainly as an addition to salads or for short frying (57%) compared to sports-inactive respondents who mostly use oil for frying (27%).
- The presented results highlight the need for efforts to increase nutritional knowledge among high school students and actions to enrich their diet with edible oils.