Preferences of dietary supplements in long distance triathlon

Introduction

The number of triathletes is steadily increasing. Due to the huge energetic requirements of long endurance performances athletes tend to take dietary supplements. The aim of this survey was to examine dietary supplements intake among long distance triathletes with focus on prevalence, overdose, reason(s), recommendation, increased performance and guidance by experts.

Methods

The link of our online-questionnaire, which was translated into five different languages, was sent to 30,000 athletes by email. We did this in cooperation with the Austrian Triathlon Association and organizers of several long distance triathlon events. The questionnaire was answered by 1158 athletes, 990 (85%) male and 168 (15%) female, from 43 nations. The survey took place between July 2011 and February 2012.

Results

Sixty six percent of the athletes reported having taken dietary supplements at least once in their life. Those ingredients, which strengthen the immune system and have a scavengers (antioxidative) function are in the first half of the ranking. Surprisingly, those ingredients that are well known in triathlon sport through advertising are not well-used among the long distance triathletes and are found in the last third of the ranking. This is also true for I-carnitine and coenzyme Q10, which are important for long endurance performances (lipometabolism). A clear gender difference in favour of male participants is clear to see in the case of essential amino acids, especially BCAAs, which support muscle generation and regeneration. Overall, only 12% of the male and 19% of the female participants take dietary supplements under physician supervision. The following figures 1-4 show the art of intake, the subjective increase of performance, recommendations as well as reasons for which they are taken. The given values from the circle diagrams have purely been generated by the dietary supplements and are separated from natural food intake. Therefore it is possible to speak of overdoses in the cases of most triathletes.

Conclusion

Dietary supplement intake is widely spread among long distance triathletes mainly with the purpose to improve the regeneration. However, overdose of the used dietary supplements occur. As overdose can place an extra burden on the body and can have negative effects, guidance by experts is strongly recommended and more research is needed in this area.

Department of Trauma Surgery, LKH Bruck/Mur, Austria* * Institute of Sport Science, University of Graz, Austria*

Hoeden, D.*; Fladischer, T.**; Titze, S.*

| | table 1: ranking of dietary supplements | | | | | | | | | | | | | | | |
|----|---|-----|-----|-----|------------|---------------------|------------|--|-----|--------------|-----|-----|-----|------------|------------|-----|
| | | | | | | M=649; W=114; T=763 | | | | T=763 | | | | | | |
| | | M/n | W/n | T/n | M/% | W/% | T/% | | | | M/n | W/n | T/n | M/% | W/% | T/% |
| 1. | magnesium | 393 | 72 | 465 | 61 | 63 | 61 | | 10. | Selenium | 126 | 21 | 147 | 19 | 18 | 19 |
| 2. | vitamin C | 292 | 57 | 349 | 45 | 50 | 46 | | 11. | base powder | 107 | 22 | 129 | 16 | 19 | 17 |
| 3. | electrolyte | 227 | 40 | 267 | 35 | 35 | 35 | | 12. | l-glutamine | 106 | 16 | 122 | 16 | 14 | 16 |
| 4. | calcium | 207 | 44 | 251 | 32 | 39 | 33 | | 13. | l-carnitine | 106 | 16 | 122 | 16 | 14 | 16 |
| 5. | B-vitamins | 198 | 39 | 237 | 31 | 34 | 31 | | 14. | others | 74 | 15 | 89 | 11 | 13 | 12 |
| 6. | zinc | 199 | 36 | 235 | 31 | 32 | 31 | | 15. | coenzyme Q10 | 61 | 13 | 74 | 9 | 11 | 10 |
| 7. | BCAAs | 199 | 20 | 219 | 31 | 18 | 29 | | 16. | creatine | 77 | 8 | 85 | 12 | 7 | 11 |
| 8. | essent. aminos. | 183 | 24 | 207 | 28 | 21 | 27 | | 17. | taurine | 63 | 8 | 71 | 10 | 7 | 9 |
| 9. | vitamin E | 165 | 32 | 197 | 25 | 28 | 26 | | 18. | colostrum | 41 | 4 | 45 | 6 | 4 | 6 |













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| | | | | | | | | | | | |
| an | trainer | | pharr | nacist | phy ther | vsio- apist | total | | | | |
| % | n | % | n | % | n | % | | | | | |
| 20 | 124 | 19 | 54 | 8 | 43 | 7 | 649 | | | | |
| 25 | 26 | 23 | 2 | 2 | 6 | 5 | 114 | | | | |
| 21 | 150 20 | | 56 7 | | 49 | 6 | 763 | | | | |







fig. 3: Perceived improved performance due to dietary supplements

fig. 4: Reasons for taking dietary supplements