

# Andrea Patricia Rohán-López\*, Alejandro Gaytán-González, Roberto Gabriel González-Mendoza, Edtna Elvira Jáuregui-Ulloa, Juan R. López-Taylor.



## **ABSTRACT:**

of college combat athletes that follow some dietary and non-dietary strategies to loss body weight before a competition METHODS: We evaluated 80 college athletes (21.1 ±2.7 y; 51 males, 29 females) from different combat sports (wrestling 23, boxing 7, judo 21, karate 14, and taekwondo 15; 77.5% ample had competitions at national level and 21.3% at international level). We applied a questionnaire to account for some of the followed dietary and non-dietary strategies to achieve the desired competition weight three months before a state tournament. The questionnaire consisted of 35 items. The questions asked the subject if he/she usually perform that strategy for pre-competition weight loss. Also, the questionnaire asked the subjects about if they showed some of the most common side effects of weight loss. The results were eported as frequencies and proportions

nmon dietary strategies for pre-competition weight loss were to reduce or avoid the consumption of fats and flours and sugars (Table 1). On the other hand, the lietary strategies to pre-competition weight loss were increasing physical activity and using sauna (Table 1). The most common side effect related t competition weight loss was overall fatigue (39, 48.8%), followed by low performance in trainings (30, 37.5%), susceptibility to diseases (29, 36.3%) and irritability or aggressiveness

**CONCLUSIONS**: The reduction of fat consumption and the increase of physical activity were the most common strategies for pre-competition weight loss. Some extreme strategies were also reported but not as common. Some of the mechanisms of these strategies may be related to the side effects of weight loss and not just for the weight loss itself. A comparison by sex and by type of sports deserves further analysis.

# INTRODUCTION

In the elite sports, it is common to optimize body composition and body weight prior to a competition. It often includes a change in the energy intake or daily habits, like avoiding meals, reduce the amount of beverages, and increasing the time doing exercise (1). Weight regulation practices among combat sports athletes have been proven to have negative effects on health parameters, such as nutritional status (2), hormonal status (3), and immune function (4). During periods of rapid weight loss, when energy intake is insufficient, it is difficult to maintain lean muscle mass. Position statements from various sports medicine bodies warn against health risks and performance implications of rapid weight loss (5-7). However, there is a constant struggle to find balance between the sports nutrition demands, body requirements, and to achieve the highest performance, while some athletes are also concern about "making weight", which poses them into a higher risk of looking for several strategies that help them reach their desired competition weight, but may affect their performance and health. Therefore, the purpose of this study was to describe the proportion of college combat athletes that follow some dietary and non-dietary strategies to loss body weight before a competition.

#### REFERENCES

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# PRE-COMPETITION WEIGHT LOSS STRATEGIES TO ACHIEVE THE DESIRED **CATEGORY WEIGHT IN COMBAT SPORTS COLLEGIATE ATHLETES**

### Institute of Applied Sciences of Physical Activity and Sport. University Center of Health Sciences. University of Guadalajara. Guadalajara, Jalisco, México.

\*andrearohan\_nut@hotmail.com

# METHODS

#### Subjects

We evaluated 80 college athletes (21.1 ±2.7 y; 51 males, 29 females) from different combat sports (wrestling 23, boxing 7, judo 21, karate 14, and taekwondo 15; 77.5% of the sample had competitions at national level and 21.3% at international level).

#### Survey design

We applied a questionnaire based on a previous survey (8). It was designed to gather data about some of the common followed dietary and non-dietary strategies to achieve the desired competition weight three months before a state tournament. The questionnaire was anonymous and composed of 35 items. It asked the subject if he/she usually perform that strategy for pre-competition weight loss. It was composed by multiple choice questions, as these are less time consuming and easier to understand. In addition, the athletes were instructed that there were no right or wrong answers. The participants gave their consent after explaining them the survey verbally. Also, the questionnaire asked the subjects about if they showed some of the most common side effects of weight loss. The results were reported as frequencies and proportions.

# RESULTS

We reported the twelve most common dietary and non-dietary strategies for pre-competition weight loss practiced by the surveyed athletes. The most and less common dietary strategies for weight loss were "Reduce or avoid fat consumption" and "Reduce or avoid animal source foods consumption", respectively (Table 1). The most common non-dietary strategy for weight loss was "Increase physical activity", followed by "Use of sauna" (Table 1). The most common pre-competition weight loss side effect was "increased fatigue" (39, 48.8%), followed by "low performance in trainings" (30, 37.5%), "susceptibility to diseases" (29, 36.3%) and "irritability or aggressiveness" (27, 33.8%). Some extreme strategies were also reported as not so common, like self-induced vomiting or the use of diuretics and laxatives (Table 1).

**Table1.** Proportion of dietary and non-dietary strategies for pre-competition weight loss.

Reduce the amount of food Reduce water and beverage Increase physical activity and reduce consumption of food and beverages Reduce or avoid fat consumption Reduce or avoid flours and sugars consumption Reduce or avoid animal source foods consumption Reduce or avoid dairy consumption **Non-dietary strategies** 

Use of sauna Use of laxatives Use of diuretics Induce vomiting Increase physical activity

# CONCLUSION

Combat college athletes appeal to different dietary and non-dietary strategies to achieve the competitive weight. The most common strategies may not be as dangerous as other less common. However, the combination of these strategies (such as the reduction of energy intake, the size in the portions and decrease in the consumption of liquids, coupled with increasing physical activity and the loss of body water through sauna) may hampers exercise performance and threaten health. Therefore, it is important to follow strategies for weight loss with the less negative health and performance implications in elite combat athletes, like the decrease in fiber intake and control the volume and weight of food. Also, how athletes get habituated to these strategies is of interest and warrants further research.

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86.3

78.8

16.3

48.8

30

10

8.8

1.3

86.3

69

63

13

39

Dietary strategies	(n=80)	(%)
d consumed	41	51.3
es consumption	30	37.5
nd reduce consumption of food and beverages	38	47.5

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