Original Article

Rapid weight loss practice and perceived problems during reduction periods of Turkish young combat athletes

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Abstract:

The aim of the present study was to examine rapid weight loss practice and perceived problems during reduction periods of Turkish young combat athletes. A questionnaire which designed by researcher was used to data collection. One hundred- twelve questionnaires (62 male and 50 female) were taken to statistical evaluation from the following sport: judo, karate, muay-tahi, taekwondo and wrestling. National team membership and former membership ratio to the national team were 54.5 % and 27.7 % respectively. The respondents had an average age of 21.54 ± 3.78 years, a mean body weight of 66.38 ± 11.45 kg and a mean height 170.05 ± 8.80 cm. The mean years of the sports experience was 10.42 ± 3.98 years. The mean age of start to use rapid weight loss methods were 15.29 ± 2.56 years. The primary source of information on promoting weight loss were friends (44.6 %), own method (42.90 %), my coaches (39.30 %) and a former combat athlete (26.80 %). The most usage methods to rapid weight loss were; more clothes on training (75 %), skipping meal (64.30%), hungry or fasting (63.4%), and saunas (58 %). The most perceived problems during reduction period were (are); excessive fatigue (70.50 %), decrease of the physical performance (67.90 %) and nervousness (66.10 %). On the other hand, reported binge eating episodes ratio was 60.71 %. In conclusion, despite all the warnings of the health authorities a large number of combat athletes persisted in constantly undergoing RWL methods. Therefore, International or Turkish sports federations and legislators should consider dissuasive penalties and effective education programs.

Key words: combat sports, rapid weight loss practice, perceived problems during reduction periods.

Introduction

Boxing, Wrestling, Judo, Taekwon do, Karate do, Muay thai etc. sports are known as weight category and weight controlled sports (Maughan, 2000). The Athletes who are competing in these sports have to keep their body weight in their combat category throughout a competition season.

However, it is well known that most weight category and weight controlled sports Athletes use several harmful methods of rapid weight loss in the week preceding the weigh-in such as severe fluid and food restriction, using saunas, training in heated room and exercising with rubberized suits, using laxative, diuretics, diet pills, vomiting an attempt to classify for a lighter weight class and by doing so, to obtain competitive advantage against lighter and weaker opponents (Oppliger, Steen, & Scott, 2003; Giannini Artioli, et al., 2010; Brito, et al., 2012; Coufalova, Prokesova, Maly, & Heller, 2013). Giannini Artioli, et al., (2010) have stated that the Athletes reduce body weight several times per season and the range of body weight fluctuation is of about 5% to 10 % of body. Steen and Steen & Brownell (1990) have reported that college wrestlers show 5.0-9.1 kg body weight fluctuations each week of the season, on the other hand this ratio is about 2.7-4.5 kg in a week for high school wrestlers.

Despite the warnings of American College of Sports Medicine (ACSM) adverse effects of rapid weight loss (RWL) on health and performance status, the prevalence acute weight cutting practice is very high as 60-90 % in most weight category and weight controlled sports' Athletes (Giannini Artioli, et al., 2010; Franchini, Brito, & Artioli, 2012; Pettersson, Pipping Ekström, & Berg, 2012). The techniques which using of RWL has been proven to negatively effects of health parameters such as; immunosuppression, lowered bone density, impaired cognitive function, hormonal unbalance, negative mood state (Giannini Artioli, et al., 2010). On the other hand, several studies have reported that RWL decreases aerobic and anaerobic performance, reduce muscle strength, thereby increasing exposure injury (Degoutte, et al., 2006). The most widely used technique for RWL is dehydration (Maughan, 2000). Dehydration can be lead to serious health status such as hyperthermia, losses of electrolytes, cardiac dysrhythmias, disturbance of renal function even death of athletes (Maughan, 2000).

There is no doubt that somebody has effects of RWL methods preference of Athletes. Coufalova, Prokesova, Maly & Heller, (2013) stated that the Athletes have gained information how to cut the body weight

rapidly from primarily their College and coaches. As it is understood that RWL is a serious problem among athletes who are combating weight category and weight controlled sports and have practice RWL techniques. In view of this problem the aim of the present study was to examine rapid weight loss practice and perceived problems during reduction periods of Turkish young combat athletes.

Material and Methods

Sample and Procedures

Two hundred ninety- four questionnaires were delivered to the respondents via surface mail or face to face. Two hundred fifty-four questionnaires were obtained back. General response rate of are 86.39 %. One hundred- twelve questionnaires (62 male and 50 female) were taken to statistical evaluation from the following sport: judo (n=46), karate (n=11), muay-tahi (n=6) taekwondo (n=28) and wrestling (n=21). On the other hand, 142 questionnaires were excluded from the study because some of respondents declared that no experienced with rapid weight loss practice.

Inclusion Criteria

Inclusion criterias were determed as; respondents needed to be over 18 and less than 35 years, to be an active combat athletes, experinced with rapid weight loss practice, experienced with at least 4 years in the combat sports, not to be a heavy weight athlete (> 100 kg).

Survey Tool

The respondents answered to a survey tool was created by the researcher of the study in the presence of the literature (Oppliger, Steen, & Scott, 2003; Franchini, Brito, & Artioli, 2012; Coufalova, Prokesova, Maly, & Heller, 2013). It is composed of 24 questions and evaluated four areas including; 1) demopgraphic information, 2) rapid weigh loss methods and source of information on acute weight cutting 3) amount of reduced body weight and extent of weight cutting period 4) perceived problems during weight cutting period.

Statistical Analysis

The descriptive characteristics for the respondents were expressed as mean values and standart deviation (SD) and calculated using SPSS (Version 20.0) The responses to the questionnaire were also expressed as percentages.

Results

National team membership and former membership ratio to the national team are 54.5 % and 27.7 % respectively. Whereas 17.7 % of the respondents have never been in national team.

The respondents had an average age of 21.54 ± 3.78 years, a mean body weight of 66.38 ± 11.45 kg and a mean height 170.05 ± 8.80 cm. The mean years of the sports experince 10.42 ± 3.98 years. The mean age of start to use rapid weight loss methods are 15.29 ± 2.56 years. The respondents were cut their body weight a mean 4.44 ± 1.89 kg within a couple weeks before competition and 2.74 ± 1.10 kg gaining back within a couple days after the competition. Rapid weight cutting and gaining back right after the competition has repeated 1-3 times (46.0 %), 3-5 times (40.0 %), and 5-10 times (10.0 %) in a competition season. Usage of the combine methods ratio is 98.21 %. Majority of the respondent (80.36 %) declared that no assistance to weight management from dietitian. The primary source of information on promoting weight loss are friends (44.6 %), own method (42.9 %), my coaches (39.3 %) and former combat athlete (26.8 %) (Figure 1). The most usage methods to rapid weight loss are; more clothes on training (75 %), skipping meal (64.3%), fasting (63.4 %), and saunas (58 %) (Figure 2). The most percieved problems during reduction period are; excessive fatigue (70.5 %), decrease of the physical performance (67.9 %) and nervousness (66.1 %) (Figure 3). On the other hand, reported binge eating episodes ratio is 60.71 %.

Figure 1. Methods of Reduction

Discussion

To the best of our knowledge the unique study exploring rapid weight loss practice and perceived problems during reduction periods of Turkish young combat athletes.

The results of this study show that RWL methods is very common among sports with weight categories athletes. In this study, forty-four percent of the respondents declared that regularly usage of RWL methods at least once time in a competition season. Giannini Artioli, et al., (2010) reported that 89 % of young judo competitors engaged in RWL practice. According to Kordi, Ziaee, Rostami, & Wallace, (2011) this rate is 75 % in Iranian male young wrestlers. In our study, ratio of the respondents who reduced their weight rapidly is lower than studies of the Giannini Artioli, et al., (2010). This situation might caused by total number of respondents, experienced with sport branches, status and cultural differences. On the other hand, one of the most important results of this study is determined that the mean age of start to use RWL methods are 15.29 ± 2.56 years. This ages corresponds to early adolescence stage. Early adolescent stage is characterized by sexuality, physical changes, ethics and self-direction (Spano, 2004). The RWL methods which were applied on the stage of early adolescent stage may be give harm to sexuality, physical structure, personality development and ethics. Kinningham & Gorenflo, (2001) stated that wrestler stars to apply to RWL methods at the age of 14 yr. Also, Kordi, Ziaee, Rostami, & Wallace, (2011) reported that Iranian wrestlers reduced their weight for the first time, at a mean age of 15.5 ± 2.4 yr. According to Giannini Artioli, et al., (2010) young judokas had began to rapid cut weight very early, generally before 15 yr of age. In the light of present studies, It is understood that needed urgent measures due to combat athletes starts to using RWL methods coincide with early puberty stage.

It is clear that most athletes has executed RWL methods, despite official warnings of American College of Sport Medicine (Oppliger, Steen, & Scott, 2003; Giannini Artioli, et al., 2010). Franchini, Brito, & Artioli, (2012) informed that most athletes follow their coaches' recommendations to execute RWL methods. Also Oppliger, Steen, & Scott, (2003) reported that coaches and fellow wrestlers were primary influence on weight loss methods. According to Kordi, Ziaee, Rostami, & Wallace, (2011) Iranian wrestlers has been influenced by coaches (58 %) and other wrestlers (28 %) on weight loss methods. As different literature, our respondents had recieved their information about rapid weight loss in their sports mainly from friends (44.6 %), own method (42.9%), and coaches (39.3%). Our respondents may be trying to prevent their coaches from punishment or any sanction. Kinningham & Gorenflo, (2001) stated that well known RWL methods are gradual dieting, restricting food, fasting, restricting fluids, increased exercise, heated wrestling room, saunas, rubber/plastic suit, spitting, laxatives, diet pills, diuretics, enemas and vomiting. Fleming & Costarelli, (2009) argued that RWL methods are based on dehydration. This idea has supported by Maughan, (2000). Maugan informed that dehydration is the most widely used technique for rapid weight loss.

Giannini Artioli, et al., 2010 that judokas are used for RWL methods such as; restriction fluid, training with plastic or rubberized suit under the judo uniform, spitting, increased exercise and decreased food intake. Kordi, Ziaee, Rostami, & Wallace, (2011) informed that Iranian wrestlers has executed increasging exercise, eating less food in each meal, skipping meal, restricting fluids, saunas and rubber or plastic suits as a rapid weight cutting methods. According to Coufalova, Prokesova, Maly, & Heller, (2013) top Czech combat athletes mostly prefer restriction food and fluids, changes in diet, exercise in more layers of clothing, increades physical

activity, sauna and nutritional supplements as rapid weight cutting methods. This study shows that Turkish young combat athletes have executed more clothes on training (75 %), skipping meal (64.3 %), fasting (63.4 %), saunas (58 %) and heated rooms (34.8 %) as RWL methods.

Vomiting, diet pills, laxatives and diuretics are known aggressive RWL methods (Franchini, Brito, & Artioli, 2012). Oppliger, Steen, & Scott, (2003) stated that usage of the aggressive RWL methods are uncommon in collegiate wrestlers (vomiting 1.9 %, enemas 1.2 %, laxatives 3.2 % and diuretics 2.8 % in once per month). The rate of the aggressive RWL methods in high schooler wrestlers are laxatives 0.5 %, diet pills 1.0 %, diuretics 0.8 %, enemas 0.4 % and vomiting 0.6 % as daily (Kinningham & Gorenflo, 2001). The results of this study show that Turkish young combat athletes are preferred aggressive RWL methods than American wrestler and Brazilian judokas.

On the other hand, there is no doubt that the RWL methods have negative effects on the mood, physical and physiological performance (Lane & Hall, 2001; Fleming & Costarelli, 2009; Franchini, Brito, & Artioli, 2012). Franchini, Brito, & Artioli, (2012) informed that combat athletes undergoing RWL presented decreased short-term memory, vigor, depression, concentration, self-esteem and increased fatigue, rage and depression. Also, Fleming & Costarelli, (2009) reported that combat athletes during weight loss they felt fatigued 60 %, decreased performance 30 %, increased tension 30 %, increased anger 20 %, 17 % dizzy, susceptible to colds and infection 7 %. According to Coufalova, Prokesova, Maly, & Heller, (2013) combat athletes undergoing RWL have felt themselves bad mood or irritability 73.2 %, fatigued 39.0 %, dehydrated 36.6 %, hunger 29.3 %, nervousness 22.0 %, decreased strength 19.5 %, reluctant to the physical activity and insomniac 14.6 %. The results of our study reveal that the most perceived 3 problems during RWL of Turkish young combat athletes were fatigue, decline in performance and nervousness.

The most important limitation in this study is survey tool which was designed by the researchers. There is no any adopted or well designed (valid and reliable) survey tool for the Turkish weight category athletes. A present survey tool may be a beginning in design to valid and reliable questionnaire for the Turkish weight category athletes.

In conclusion, despite all the warnings of the health authorities a large number of combat athletes persist in constantly undergoing RWL methods. These athletes are encouraged to use unhealthy RWL methods by coaches and parents. Therefore, International or Turkish sports federations and legislators should consider dissuasive penalties and effective education programs.

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