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Weight loss practices in amateur wrestlers and its relationship to disordered eating

Abstract

The premise behind many athletic programs is to encourage wellness, a state of well being in both physical and emotional aspects. This research paper reviews how wrestling and other athletic programs where weight plays a significant role, may affect eating and other weight-related habits. It addresses whether weight loss practices in wrestling play a role in disordered eating patterns of its participants.

**WEIGHT LOSS PRACTICES IN AMATEUR WRESTLERS AND
ITS RELATIONSHIP TO DISORDERED EATING**

A Research Paper

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**The Department of Educational Leadership, Counseling
And Postsecondary Education
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Mental Health Counseling

By

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The premise behind many athletic programs is to encourage wellness, a state of well being in both physical and emotional aspects. This research paper reviews how wrestling and other athletic programs where weight plays a significant role, may affect eating and other weight-related habits. It addresses whether weight loss practices in wrestling play a role in disordered eating patterns of its participants.

Wrestling has long been a tradition throughout the United States, and with the tradition comes those athletes who are willing to do whatever it takes to succeed, including losing weight. Wrestlers have been known to resort to some extreme measures, including rolling up in the wrestling mat to "sweat" off excess weight or vomiting before a match to "make weight."

Disordered eating can be defined as "excessive worry about one's weight and shape, following rules about eating, or limiting food intake" (O'Dea & Abraham, 2002, p. 273). Other disordered eating issues may include "becoming distressed when he/she can not exercise as much as he/she wants, following rules about exercising, and worrying about the amount of exercise he/she was doing," (O'Dea & Abraham, 2002, p. 273) or "fasting, food restriction, fluid restriction, dehydration, using rubber suits, or vomiting" (Oppliger, Landry, Foster, & Lambrecht, 1993, p.826).

The purpose of this research paper is to present current information regarding whether amateur wrestling and disordered

eating are related. In addition, it will explore the importance of early detection and intervention for treating disordered eating behavior in athletes.

Wrestling and Weight Loss

Eating disorders and related issues first became a concern to the National Collegiate Athletic Association and its member institutions a decade or so ago, and the issue remains (Hawes, 2000). While experts are divided on whether eating disorders are more prevalent in athletic programs or simply reported more often, it is clear that the issue remains one that can dramatically affect student athlete welfare (Hawes, 2000).

Although the behaviors may not fit all of the criteria for an eating disorder, many of the techniques wrestlers use to lose weight, which were mentioned earlier, meet a number of the diagnostic criteria for anorexia nervosa or bulimia nervosa in the Diagnostic and Statistical Manual of Mental Disorders (Dale & Landers, 1999). Research (Hursch, 1979; Ribisl, 1975; Tipton & Tchong, 1970) has

shown that wrestlers "cut weight" frequently by using a combination of food restriction, fluid deprivation, and thermal dehydration. Both the American Medical Association (1967) and the American College of Sports Medicine (1976) have issued position statements that discourage the food restriction and dehydration practices used by wrestlers.

An Epidemic?

Enns, Drewnowski, and Grinker (1987) stated,

The outstanding athlete has traditionally been admired and regarded as the epitome of physical health. However, as increasing numbers of people have become involved in vigorous athletic training, weight control, and concern with nutrition and food choices, the existence of 'sports induced' eating disturbances has been hypothesized (p. 56). Enns et al. (1987) stated, in their research on male college athletes, that amateur wrestlers not only endure strenuous athletic training, but also deny themselves food and water in order to weigh in at or below their

desired weight. Enns et al. (1987) examined two groups of athletes, the first was intercollegiate wrestlers, and the second, intercollegiate swimmers and cross country skiers. Over the course of the season, only the wrestlers lost weight (Enns et al., 1987). There was also a significant decrease in the amount of food both groups reported eating on a daily basis (Enns et al., 1987). In addition, the approximate amount of calories the wrestlers reportedly consumed near the end of the season was well below the range of recommended daily caloric intake for young adult males of this age group (Enns et al., 1987).

Freischlag (1984) studied weight loss and body composition of 104 high school wrestlers and 73 controls. Upper weight class wrestlers used fluid restriction and dehydration for weight loss, whereas lower weight class wrestlers used these methods plus food restriction (Freischlag, 1984).

Finally, Hawes (2000) reported that in 1990, and again in 1992, the National Collegiate Athletic Association (NCAA) conducted a

study to determine the prevalence of eating disorders among student-athletes in its member institutions. Both studies showed that eating disorders were a problem in intercollegiate athletics. The 1992 study showed 70% of the responding institutions indicated at least one eating disorder in their athletics programs. "By their very nature, good athletes are driven to succeed. They are disciplined and goal oriented, traits that are similar to those of someone at risk for an eating disorder" (Hawes, 2000, p. 11).

Disordered Eating

Questionable Weight Loss Methods

There has been an increasing concern among clinicians and researchers about the possibility of athletes developing an eating disorder. Moriarty & Moriarty (1994) said,

Health professionals should be concerned about the role sport plays in eating disorders, since anorexia and bulimia are life-threatening illnesses. Similarly, coaches, technical and executive directors, and other sport administrators should be

concerned about eating disorders, since wrestling programs are often described as "a diet and fitness program gone wild" (p. 2).

The concern among clinicians and researchers has been the influence these behaviors have on the potential for developing eating disorders (Oppliger et al., 1993). There have been many studies (Dale & Landers, 1999; Kiningham & Gorenflo, 2001; Oppliger et al., 1993) conducted to address this issue of weight loss in wrestling.

Kiningham & Gorenflo (2001) found among more than 2,500 high school wrestlers in Michigan, 2.3% of those wrestlers had vomited weekly to lose weight. Wrestlers who used at least one rapid weight loss method per week had lost more weight and had begun wrestling at an earlier age (Kiningham & Gorenflo, 2001). Also, those wrestlers with rapid weight loss reported more binge eating than wrestlers who did not use weekly rapid weight loss methods (Kiningham & Gorenflo, 2001).

As a result, Kiningham and Gorenflo (2001) concluded that the majority of wrestlers utilized at least one potentially harmful weight

loss method each week of the wrestling season. Fasting and other methods of dehydration were the most common methods of rapid weight loss (Kiningham & Gorenflo, 2001). Kiningham & Gorenflo (2001) also found that wrestlers who needed to lose weight each week, were more likely to binge eat. In addition, they found that neither grade level nor success level influenced the frequency of potentially harmful weight loss practices (Kiningham & Gorenflo, 2001).

Dale & Landers (1999) studied 85 junior high and high school wrestlers and 75 non-wrestlers, using the Drive for Thinness subscale. A notable finding in this study was that in-season wrestlers (wrestlers who are currently participating) have approximately the same level of risk for disordered eating than non-wrestlers who are classified as "at-risk" for disordered eating (Dale & Landers, 1999). There were, however, considerable differences discovered between in-season wrestlers and non-wrestlers, and between in-season wrestlers and off-season wrestlers (Dale & Landers, 1999). 36% of in-season

wrestlers were at risk for developing an eating disorder, while only 19% were at risk while not in season (Dale & Landers, 1999). The number of in season wrestlers who were at risk for an eating disorder (36%) was more than 7% higher than those who were non-wrestlers (Dale & Landers, 1999).

Oppliger et al. (1993) conducted a study of bulimic behaviors among interscholastic wrestlers. The researchers classified those wrestlers who met four or five of the DSM-IV criteria for bulimia nervosa into the HIGH group (9%), and those who met two to three criteria were in the MOD (moderate) group (36%). Oppliger et al. (1993) concluded, "wrestlers who exhibited bingeing were more likely to exhibit other extreme weight loss practices" (p. 831). 33% of the HIGH and MOD groups admitted to using rubber or plastic suits, a violation of national wrestling rules (Oppliger et al., 1993). In addition, 22% of the HIGH and MOD groups used vomiting or laxatives as a method of weight loss (Oppliger et al., 1993).

Sustained Disordered Eating

Many authors (Dale & Landers, 1999; Enns et al., 1987; Oppliger et al., 1993) appear to agree on one common theme, the behaviors described occurred strictly during the wrestling season and do not seem to continue once wrestling is completed. Dale & Landers (1999) results showed that although in-season wrestlers were more weight conscious than non-wrestlers, these feelings and attitudes were temporary, or only occurred within the wrestling season. The participants classified as "at risk" on the "Eating Disorders Examination" participated in an interview, following the completion of the instrument. More in-season wrestlers scored above the "at risk" cutoff on the subscale. Interviews with those in-season wrestlers showed their concerns with weight were due entirely to the demands of the wrestling season, and did not meet the criteria for bulimia nervosa when those wrestlers were not participating in the sport (Dale & Landers, 1999).

Lakin, Steen, & Oppliger (1990) suggested there is insufficient research on whether weight loss practices utilized during the season are influenced by wrestling itself, or if athletes with these eating behaviors and attitudes are drawn to the sport. Lakin et al. (1990) found that while high school wrestlers may be at risk for developing bulimia, they did not determine whether adolescent boys enter the wrestling arena with these eating behaviors and attitudes, or if wrestling as a sport "encourages regimes that are conducive to disordered eating patterns" (p.232).

Recommendations for Prevention

Early Detection

Studies have shown the effects of weight loss on body composition (Freischlag, 1984; Steen & McKinney, 1986; Tipton & Tchong, 1970), nutrient intake, and eating behavior (Steen & Brownell, 1990; Steen & McKinney, 1986), muscular strength (Freischlag, 1984), and resting metabolic rate (Steen, Oppliger, & Brownell, 1988).

Johnson & Tobin (1991) stated, "since early detection and intervention

are so important, athletic trainers, dieticians, coaches, and teachers should be familiar with the signs and symptoms of these disorders" (p. 119).

Lakin et al. (1990) stated,

In school-based settings community health nurses and school nurses can play key roles in assisting coaches and other personnel to identify wrestlers at risk for severe binge eating and bulimia. Primary prevention strategies for promoting sound weight control practices and appropriate nutritional information for peak performance and growth needs can also be directed toward coaches, wrestlers, and their parents (p. 233).

Testing

For many years, discussions have been held regarding regulations for weight loss in wrestling. Kenney (1930) who had previously coached wrestling at the University of Illinois, in response to the weight loss practices he had seen as a coach, recommended coaches turn over a list of names to the Health Department at the

beginning of the season. The physician at the Health Department would then provide a mandatory examination to those athletes on the list, and decide which weight each athlete should wrestle. The physician would weigh the wrestler throughout the season to ensure that he maintained the appropriate amount of weight (Kenney, 1930).

Almost seventy years later, "effective with the 1998-1999 wrestling season, the National Collegiate Athletic Association has implemented a wrestling weight certification (WWC) program with the intention of minimizing unhealthy weight loss practices and increasing safe participation of student athletes in the sport" (Utter, 2001, p. 296). The NCAA Competitive Safeguards Committee approved hydrostatic weighing (HW), skin folds (SF), and air displacement plethysmography for collegiate Minimum Weight Assessment (Clark, Bartok, & Sullivan, 2004).

Minimum Weight Assessment at the high school level is determined using hydrostatic weighing, skin folds, or in some states, bioelectrical impedance analysis (BIA). Several studies have

established the validity of skin folds testing in high school and collegiate wrestlers; however, concerns have arisen about the effects of dehydration on Minimum Weight Assessment (Bartok, Schoeller, Clark, Sullivan, & Landry, 2004). Coaches need to be aware that dehydration reduces body weight and total body water, making the readings potentially unreliable (Bartok et al., 2004). If a wrestler's weight class is determined solely by these readings, the effects could be potentially harmful (Bartok et al., 2004).

Treatment

Who Can Help?

When designing disordered eating prevention or treatment programs for athletes, especially wrestlers, it is important to understand that often "a desire to achieve an ideal weight or percentage of body fat becomes an all-consuming obsession" (Hornak & Hornak, 1997, p. 35). Kiningham & Gorenflo (2001) found that the coach and other wrestlers are the most influential in determining wrestlers' weight classes and also determining the ways in which he or

she gets to that weight class. Parents, trainers, and doctors do not have as much of an influence (Kiningham & Gorenflo, 2001). Along with the level of influence they have, coaches and other wrestlers believe that competing at the lowest possible weight class gives the wrestler a competitive edge (Kiningham & Gorenflo, 2001). Coaches and other wrestlers may be most influential in encouraging these athletes to receive the help they need (Kiningham & Gorenflo, 2001).

Oppliger et al. (1993) maintained, "physicians and health care providers must be alert to potentially dangerous weight cutting practices and support efforts to curtail those practices" (p. 831).

Hornak & Hornak (1997) discussed how coaches, family members, teammates, and friends could address the issue of disordered eating and refer an athlete for treatment if necessary.

Hornak & Hornak (1997) suggested the first step in confronting an athlete with a potential eating disorder should be to schedule an intervention (a meeting with those who are concerned for the athlete's behavior) by someone who has a close relationship or good

rapport with the individual. Second, Hornak & Hornak discussed the necessity of stating clearly what contingencies are being placed on the athlete for continued team membership. The next step is referral. Ideally the athlete should be referred to a multidisciplinary team where medical, dietary, and psychological interventions are provided (Hornak & Hornak, 1997). Finally, it is important to note that continuation on the team can be contingent upon medical, dietary, and psychological evaluations by professionals (Hornak & Hornak, 1997).

Hornak & Hornak (1997) suggested several guidelines to enforce as a coach or counselor, including requiring the athlete to follow recommendations of the counselor, physician, and other medical personnel, maintaining confidentiality regarding the athlete's issue, and avoiding the temptation to assume dual relationship roles with the athlete. Hornak & Hornak (1997) recommended scheduling educational meetings where professionals can give brief presentations on various topics of interest to athletes.

Conclusion

Utter (2001) stated, "compared with previous research, the less dramatic changes in seasonal body mass...suggest that the new NCAA Wrestling Weight Certification program may, in part, be responsible for overall enhanced weight management behavior among collegiate wrestlers" (p. 301). However, when Wroble & Moxley (1998) examined the affect of a voluntary educational program on weight loss among high school wrestlers, they concluded that substantial numbers of wrestlers compete below minimum weight recommendations.

Wroble & Moxley (1998) also determined there is substantial variation in adherence to Minimum Weight recommendations between schools participating in identical programs. In other words, given the exact educational program, most wrestlers will choose to lose more weight than the minimum weight recommendations (Wroble & Moxley, 1998).

Continued research in the area of wrestling and rapid weight loss is necessary, since according to some authors, (Brownell, Rodin, & Wilmore, 1992; Wroble & Moxley, 1998) the educational programs

that are being used have been ineffective. Brownell et al. (1992) summarized the need for research on the subject of eating and weight loss problems in athletes when they suggested "correction of methodological problems in studies, examination of larger and new populations, and longitudinal studies to examine risk factors" (p. 140). Lakin et al. (1990) appear to agree, when they stated that additional studies are needed by nurse researchers to further characterize these disordered eating behaviors, their duration, and to substantiate a diagnosis by clinical interviews. Again, in apparent agreement with Brownell et al. (1992), Lakin et al. (1990) suggested that longitudinal studies need to be undertaken in order to clarify whether binge eating and bulimic tendencies are a temporary occurrence related to the wrestling season, or a more long-standing concern among individual scholastic athletes.

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