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Research report

Misuse of prescription stimulants for weight loss, psychosocial variables, and eating disordered behaviors

Amy Jeffers [a,*], Eric G. Benotsch [a], Stephen Koester [b]

[a] Virginia Commonwealth University, Department of Psychology, P.O. Box 842018, Richmond, VA 23284, United States
[b] University of Colorado Denver, Departments of Anthropology and Health and Behavioral Sciences, CB 103, P.O. Box 173364, Denver, CO 80217, United States

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ABSTRACT

In recent years there has been a dramatic increase in the non-medical use of prescription drugs among young adults including an increase in the use of prescription stimulants normally used to treat ADHD. Reported motivations for the non-medical use of prescription stimulants (NPS) include enhancing academic performance and to get high. Although a common side effect of these medications is appetite suppression, research examining weight loss as a motivation for NPS among young adults is sparse. In the present study, undergraduate students ($n = 705$) completed an online survey assessing weight loss behaviors, motivations for weight loss, and eating behaviors. Nearly 12% of respondents reported using prescription stimulants to lose weight. Participants who reported using prescription stimulants for weight loss had greater appearance-related motivations for weight loss, greater emotion and stress-related eating, a more compromised appraisal of their ability to cope, lower self-esteem, and were more likely to report engaging in other unhealthy weight loss and eating disordered behaviors. Results suggest some young adults are misusing prescription stimulants for weight loss and that this behavior is associated with other problematic weight loss strategies. Interventions designed to reduce problematic eating behaviors in young adults may wish to assess the misuse of prescription stimulants.

Introduction

In recent years, there has been a dramatic increase in the intentional misuse of prescription drugs among young adults in the United States (National Institute on Drug Abuse [NIDA], 2010; Rozenbroek & Rothstein, 2011). One notable concern is the rise in the non-medical use (i.e., without a doctor's prescription) of prescription stimulants (NPS) (Arria & DuPont, 2010; McCabe & Teter, 2007; Rabiner et al., 2009). Lifetime prevalence rates of NPS are estimated between 6.9% and 18.6% (Arria et al., 2011) in college students. Common motivations for the misuse of prescription stimulants include to help with concentration, to increase alertness, to get high, and for the sake of experimenting (Teter, McCabe, LaGrange, Cranford, & Boyd, 2006).

Prescription stimulant medications used to treat Attention Deficit Hyperactivity Disorder (ADHD), for example, Adderall and Ritalin, have shown promise for improving the main symptoms of ADHD and increasing academic performance among those with ADHD (Zachor, Roberts, Hodgens, Isaacs, & Merrick, 2006). However, a common side effect of these medications is appetite suppression (Zachor et al., 2006) and subsequent weight loss (Kent, Blader, Koplewicz, Abikoff, & Foley, 1995). Because of this widely known side effect of ADHD medications, some individuals may be motivated to misuse such drugs for the purpose of losing weight. Misusing prescription ADHD medication for the purpose of weight loss has been discussed in the popular press, but has been examined only minimally in the research literature. In one study, the non-medical use of specific prescription stimulants was examined along with the motives for such use (Teter et al., 2006). About 9.7% of the lifetime users reported using stimulants not prescribed to them for the purpose of weight loss. However, this motivation was the sixth highest reason given after motives such as improving concentration, as a study aid, and increasing alertness. The use of prescription stimulants for weight loss was minimally examined in this study. Rabiner et al. (2009) examined the misuse of ADHD medication among individuals who reported having a current prescription for these medications. Motivations for misusing prescription stimulants were discussed, including for the purpose of losing weight. However, this was not a focal point of the research as this behavior was minimally endorsed within the sample. The issue of misusing prescription stimulants for weight loss is a timely phenomenon to examine due to the increasing prevalence of NPS and high prevalence rate of individuals trying to lose weight (McGuire, Wing, & Hill, 1999; Serdula et al., 1999).

* Corresponding author.
E-mail address: jeffersaj@vcu.edu (A. Jeffers).

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People can attempt to lose weight by utilizing healthy strategies (e.g., increasing fruit or vegetable consumption, reducing consumption of sweets) or unhealthy strategies (e.g., skipping meals, vomiting/using laxatives) (French & Jeffery, 1994). The specific strategy a person employs for weight loss may depend on the type of motivation he or she has, such as wanting to lose weight for appearance reasons (i.e., to feel more attractive) or health reasons (i.e., to have more energy and feel better). Wanting to lose weight for appearance reasons has been associated with the use of more unhealthy weight loss strategies (Putterman & Linden, 2004).

There are other important psychosocial variables to examine when studying weight loss. For example, overweight individuals tend to use eating as a coping mechanism in response to a stressor (Ozier et al., 2007). It is important to examine stress-eating in individuals who are trying to lose weight as this can be associated with negative outcomes. Self-esteem is another relevant construct to consider when examining health behaviors. Low self-esteem has been associated with a variety of problematic health behaviors including alcohol use, sexual risk taking, and eating disordered behaviors (Gullette & Lyons, 2006; Kensinger, Murtaugh, Reichmann, & Tangney, 1998). Additionally, examining eating disordered behaviors is important when studying weight loss. In one study, adolescents engaging in unhealthy weight loss practices, such as vomiting and fasting, were more likely to abuse substances and to perceive themselves as being overweight and depressed (Haley, Hedberg, & Leman, 2010).

Because the misuse of prescription stimulants and weight loss attempts are both prevalent, it is important to examine if they are associated. The aim of the present study was to assess the prevalence of prescription stimulant use for weight loss in a sample of college students and to examine if this behavior is related to other health-jeopardizing behaviors. We hypothesized that individuals who reported the misuse of prescription stimulants for weight loss would also utilize other unhealthy weight loss approaches and have more problematic ways of thinking, such as more appearance-oriented motivations for weight loss.

Method

A brief online survey was administered to undergraduate students ($N = 705$) enrolled in psychology classes at a large eastern university. All surveys were completed anonymously online via a password-protected, secure survey system. Participants received course credit for participation. The system was set up to award credit automatically while masking participant identities from the researchers. Participants were told the surveys would assess weight loss behaviors, motivations for weight loss, and other health behaviors. Consent procedures were conducted anonymously online by having participants mark a checkbox indicating they either did or did not wish to participate in this study. Participants were known only by an identification number. All study procedures and measures were approved by the Institutional Review Board of Virginia Commonwealth University. Data were collected in April–October 2011.

Measures

The survey assessed demographic information, weight loss behaviors, motivations for weight loss, stress-related eating, self-esteem, and eating disorder symptoms.

Demographics

Participants were asked their gender, race/ethnicity, age, if they had ever dieted in their lifetime, if they had dieted within the last year, and if they were currently dieting. They were also asked to report their height and weight. These data were used to calculate participants' Body Mass Index (BMI).

Weight loss behaviors

Participants reported the frequency that they had ever utilized various healthy and unhealthy weight loss behaviors on a scale from "Never (1)" to "Always (5)." This measure was adapted from a list of weight loss behaviors compiled by French and Jeffery (1994). We added additional items, including one item that asked participants if they had ever utilized a prescription stimulant normally used to treat ADHD in an effort to lose weight. Both Ritalin and Adderall were given as examples for such medications. Other unhealthy behaviors that were assessed included vomiting/use of laxatives and skipping meals. Examples of healthy behaviors included increasing physical activity/exercise, reducing sweet intake, and stopping or decreasing the frequency of eating fast-food. During data analysis, answers were either totaled for a single dimensional score, or dichotomized based on whether the participants indicated they had never engaged in the behavior or had engaged in the behavior at least once. In addition, participants were compared on various measures, such as stress-eating and self-esteem, based on whether they had never engaged in using a prescription stimulant for weight loss or had engaged in the behavior at least once. This measure showed adequate internal consistency for both healthy ($\alpha = 0.87$) and unhealthy ($\alpha = 0.74$) behaviors.

Motivations for weight loss: health versus appearance

Participants were asked questions concerning their motivations for weight loss. This measure assessed three types of weight loss motivations: health, appearance in relation to others, and appearance in relation to oneself (Meyer, Weissen-Schelling, Munsch, & Margraf, 2010). For example, individuals who want to lose weight for health reasons may want to decrease their health risks and live longer. Individuals who are motivated to lose weight due to their appearance in relation to others may desire to improve their appearance so that they are more accepted by society and to be better liked. Lastly, individuals who may be motivated to lose weight due to their appearance in relation to oneself may want to feel more self-confident and/or to like to look at themselves in the mirror again. Motivations were assessed on a scale from "Absolutely Not (1)" to "Strongly (4)." The internal consistencies for the three subscales were acceptable, with alphas ranging from 0.90 to 0.92.

Eating and appraisal due to emotions and stress

Participants were asked questions concerning stress-eating and appraisal of stressors. This scale assessed three factors: emotion and stress-related eating; appraisal of ability and resources to cope with emotions and stress; and appraisal of outside stressors/influences on a scale from "Strongly Disagree (1)" to "Strongly Agree (5)" (Ozier et al., 2007). The emotion and stress-related eating factor identifies eating as a coping mechanism that occurs in response to a particular emotion or stressor. Two example items are: "I use food to cope with my emotions" and "I overeat when I am stressed." The second factor, appraisal of ability and resources to cope with emotions and stress, examines the perception of a person's ability to change a situation, control emotional reactions, and cope effectively. Two example items are: "I am capable of dealing with stressful situations" and "I have control over my emotions." Lastly, the third factor, appraisal of outside stressors/influences, examines individuals' perceptions of other people, which can influence how they perceive various stressors and