

Self-Induced Vomiting after Drinking Alcohol

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Abstract We studied the frequency and correlates of self-induced vomiting after the consumption of alcohol. Participants were 107 female university students who completed a survey designed for this study along with measures of eating disordered attitudes and behaviors, and depression. Based on their responses to the survey, 59.8 % of the sample that reported drinking alcohol also reported having engaged in self-induced vomiting after alcohol consumption, with 57 % reporting frequency as high as four times in the last month. Participants that reported self-induced of alcohol also reported more bulimia nervosa symptomatology as well as depression. Intentional vomiting after drinking appears to be a problem worthy of further study as a possible variant of a substance use or eating disorder.

Keywords Bulimia nervosa · Vomiting · Alcohol · Substance abuse · Social bulimia · Drunkorexia

Bulimia Nervosa (BN) is an eating disorder that often emerges in late adolescence to early adulthood, thus putting university students at an elevated risk (Katzman & Wolchik, 1984). Individuals affected by the disorder engage in binge-eating and purging by means such as self-induced vomiting. BN often co-occurs with other psychological disorders, including substance abuse (Zaider et al. 2000). Some researchers have found that alcohol and substance abuse have a lifetime comorbidity of 18–50 % with BN in clinical samples (Bulik et al. 1994; McCormack & Carman, 1989).

In addition to the simple co-occurrence of the two disorders, there are some individuals that may engage in self-induced vomiting of the alcohol consumed, with the purpose being to prevent weight gain. Thus, the pattern appears related to both substance use and an eating

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disorder. The behavior pattern has been called “Social bulimia” in the popular media. For example, the urban dictionary (<http://www.urbandictionary.com>) defines it as “The act of getting [very intoxicated] every night to the point of uncontrollable vomiting as an extreme weight loss method”.

At this point in time, there has been little empirical research on such behaviors. Meilman et al. (1991) found that 19.7 % of females in their university-student sample reported self-induced vomiting after drinking alcohol and/or consuming food. Specifically, the authors found that 60.7 % of those in their sample that purged after eating also purged after drinking alcohol, and 50 % of those who purged after drinking alcohol also purged after eating. However, a limitation of that study was how some of the questions were asked. By referring to vomiting after drinking alcohol “and/or” consuming food, it is not clear how many participants were specifically referring to drinking.

More recently, Peralta (2002) studied more broadly defined dieting-related behaviors in relation to alcohol use. In his sample (78 undergraduates), 5.4 % of the women and 2.4 % of the men reported purging “in relation to alcohol use” (p. 29). However, data were collected via a semi-structured, open-ended interview and it is not clear if participants were explicitly asked about purging. Furthermore, one of the two women that reported purging also described herself as anorexic, so it is possible that she simply had an eating disorder.

Most recently, Rahal et al. (2012) described the development of a test to measure compensatory eating and behaviors in Response to alcohol consumption Scale. Thus, those researchers argued that there was clearly a need to study such phenomenon. However, in their literature review, they noted the existence of only two relevant studies, with Peralta (2002) being one of them. The second that they noted was Burke et al. (2010) who had focussed on the intentional caloric restriction prior to drinking alcohol (called “drunkarexia” by some researchers). Burke et al. reported that that 14 % of their sample of first-year university students reported restricting calories prior to drinking, with 6 % reporting that they did it to avoid weight gain. However the researchers did not study self-induced vomiting *after* drinking.

The current study was undertaken to further study the frequency and correlates of intentional vomiting following drinking. Specifically, we assessed how often female university students reported engaging in this behavior and their attitudes towards it. We were also interested in the degree to which self-induced vomiting after drinking alcohol was related to eating disorder symptomatology and to other psychological problems such as depression. Furthermore, each of the above-described studies was conducted in the United States; thus there is a need to study the degree to which this behavior occurs in other countries and/or cultures.

Method

Participants

Participants were 107 female undergraduate students aged from 18 to 30 years ($M=21$, $SD=2.69$) from a University in New Zealand. Body mass indices (BMIs) for the sample were in the normal range ($M=23.25$, $SD=3.78$). On average, the sample was in the normal range on the measures of depression and eating disorder symptomatology (see below).

Assessment Measures

The following self-report measures were used in the study: The Bulimia Test-Revised (BULIT-R; Thelen et al. 1991), the Eating Attitudes Test-26 (EAT-26; Garner et al. 1982),

and the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). In addition to these measures, a survey on self-induced vomiting was developed which included questions regarding the frequency and attitudes towards self-induced vomiting after drinking alcohol.

Procedure

The study was approved by the University's ethics board. Potential participants were recruited via email and flyers (noting that this was a study about eating and drinking behaviors) at the university and were tested in groups or individually. Participants gave informed consent. Participation took approximately 15–20 min and, once they had completed the questionnaires, participants were given a debriefing sheet and a lottery ticket with a chance to win \$1000 as remuneration for their time. Participation was voluntary and participants could withdraw at any stage.

Results

Frequency of Reported Behaviors

Overall, 91.6 % of the participants reported drinking alcohol. Of those who reported drinking, 59.8 % reported having intentionally induced vomiting (at least once) after drinking alcohol. In reference to the last 6 months, 86 % of the participants who reported that they had self-induced vomiting after drinking alcohol indicated that they did this between one and five times (once=14 %, twice=10.3 %, three times=8.4 %, four times=5.6 %, and five times=4.7 %). Only one participant that reported having engaged in the behavior denied having done it in the last month, with the majority reporting it between 1 and 4 times, and 3 participants had done it 5–6 times in the last month, which is an average of approximately 1.5 times a week.

Relationship with Eating Disorder and Depressive Symptoms

Table 1 presents comparisons of those participants that did or did not report intentional vomiting after drinking. There were no significant differences on BMI but there were for the BULIT-R, EAT-26, and CES-D. The BULIT-R was more strongly associated with self-induced vomiting after drinking than were the other measures. The effect size (Cohen's *d*) was in the medium range.

Table 1 Group comparisons M(SD) on the CES-D, BULIT-R, EAT-26, and BMI for participants who did or did not report self-induced vomiting following alcohol consumption

Vomit Measure	“yes”	“no”	<i>t</i>	<i>df</i>	<i>p</i>	Cohen's <i>d</i>
CES-D	16.14 (8.14)	13.15 (6.81)	1.83	95	0.036	0.40
BULIT-R	59.58 (19.04)	50.29 (13.96)	2.51	96	0.007	0.56
EAT-26	8.86 (10.85)	5.41 (6.64)	1.69	96	0.047	0.38
BMI	23.41 (3.65)	23.07 (4.23)	0.41	96	0.680	0.09

One tailed t-tests were performed on the CES-D, BULIT-R, and EAT-26

Attitudes and Motivation Towards Purging of Alcohol

Of the sample that reported drinking, 48.6 % reported that intentionally vomiting after consuming alcohol was an “ok” behavior (agreeing or strongly agreeing with statement) whereas 27.1 % reported that this was not an acceptable behavior to perform (24.3 % were neutral about this behavior).

Attitudes and Related Symptomatology

We then compared the groups (in terms of scores on the BULIT-R, EAT-26, and CES-D) based on their responses to the various attitudes toward vomiting after drinking. The BULIT-R was the only measure which was significantly associated with the statement “it is ok if someone intentionally vomits after consuming too much alcohol”, $F(2,87)=2.87, p=.027$; those who scored higher on the BULIT-R also were more likely to agree or strongly agree with it being ok.

Discussion

In the University sample tested, over 90 % of the participants reported drinking alcohol, which is consistent with other New Zealand studies (e.g., Kypri et al. 2002). Of those in the current study who reported drinking alcohol, 59.8 % reported they had self-induced vomiting after drinking. Of those, all but one participant noted having done it in the month prior to the study. Also, of those that reported drinking, less than one-third thought that intentional vomiting after drinking was an unacceptable (i.e., problematic) behavior. These figures seem quite high and were substantially higher than those reported by Meilman and colleagues or Peralta (2002), who studied North American samples.

All of the measures were significantly related to self-induced vomiting after drinking alcohol, suggesting that those who vomited after drinking were, on average, more depressed and exhibited more eating disordered attitudes and behaviors. The highest association was with bulimia nervosa symptomatology. Those participants who thought self-induced vomiting was an acceptable behavior also tended to score higher on the BULIT-R, and this trend was not found for the other measures, thus indicating again that bulimia nervosa is more strongly associated with self-induced vomiting after drinking alcohol than was anorexia (as measured by the EAT-26) or depression (as measured by the CES-D). However, the prevalence was much too high to conclude that it was simply women with bulimia nervosa in the sample that were reporting the vomiting. Clearly this is a problem that extends beyond the syndrome of bulimia nervosa.

This study had notable limitations. The sample comprised only female university students from New Zealand; thus, the findings cannot necessarily generalize to different cultures or age groups, or to males. Second, given that the recruitment process mentioned that the study was related to eating and drinking, it is possible that such information may have affected who participated (although the drinking estimates were similar to prior research—as noted above). Also, given the nature of the subject matter (vomiting and other disordered eating), lack of disclosure may have been a problem. Our findings should not in any way be construed as an exact estimate of the problem, but should clearly suggest that it is need of further study.

Future research on self-induced vomiting after drinking alcohol is needed to help better understand the problem. Men should be studied in addition to women, and an attempt should

be made to better determine if the behavior is a variant of an eating disorder, a variant of a substance-use disorder, or simply a problem in its own right. Further studying the motivations for the behavior may help answer this question. If the primary purpose is for weight loss or to prevent weight gain, then the behavior is clearly more in the realm of an eating disorder. Our preliminary findings that the behavior was most strongly associated with the BULIT-R would support this hypothesis, but the same pattern may not hold for men.

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