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Alcohol consumption in the aftermath of a natural disaster: a longitudinal study

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ABSTRACT

Objectives: In this study, we examined changes in alcohol consumption in the aftermath of a natural disaster, as well as possible predictors of both increased and decreased drinking.
Study design: Observational longitudinal study.
Methods: Repatriated Norwegian adults who resided in areas affected by the 2004 Southeast Asia tsunami completed a questionnaire at 6 and 24 months postdisaster (N = 649).
Results: Weekly alcohol consumption and frequency of intoxication did not change significantly from 6 to 24 months postdisaster at the population level: 18.3% (n = 116) increased their alcohol consumption while 21.1% (n = 125) showed a reduction. Increased drinking was not predicted by severity of disaster exposure, post-traumatic stress, or measures of psychological functioning. Reduced alcohol consumption was predicted by younger age and social withdrawal, but not by any of the other study variables.
Conclusion: Our findings indicate that the tsunami experience had only minor effects on alcohol consumption, in contrast to some studies suggesting a relationship between trauma exposure and increased alcohol consumption.

Introduction

The bulk of studies on the relationship between disaster exposure and alcohol use have concluded that disaster exposure or subsequent post-traumatic stress is associated with increased alcohol consumption.[1–6] Also, psychopathology such as depression, anxiety disorders, and somatization disorders have generally been found to be associated with a high level of alcohol use,[7–10] as well as with trauma exposure.[11–13]

Previous research in this field has several limitations, however. First, a large proportion of the studies indicating an association of disaster exposure and increased drinking have relied on retrospective data.[4–6,14] In some of these studies, participants were asked directly whether they had changed their drinking habits after the traumatic event. Other studies assessed such changes by posing questions about current

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alcohol use and alcohol use prior to the traumatic event. Previous analyses of the same dataset on which the present study is based suggested that such data may not necessarily capture actual changes in drinking patterns but rather reflect attribution and recall bias.[15] Another limitation of the research literature in question is that few studies have included a relevant reference group of non-exposed individuals as controls.[3,15,16] By its very nature, the cross-sectional design of these studies also limits the possibility of establishing the probability of a cause–effect relationship.

The body of longitudinal research in this field is meager, and the findings are mixed. Some of these studies indicate that trauma exposure is related to increased drinking, but that other stressors significantly interact with this relationship.[17,18] Evidence suggesting that this relationship is independent of other factors has also been reported.[16] Finally, one longitudinal study found no association between trauma exposure and a trajectory of increased alcohol consumption.[19]

If trauma exposure is, in fact, associated with a risk of more extensive drinking, such a link might have important implications with respect to treatment and follow-up of trauma-exposed individuals. In relation to this, it would also be important to assess factors that may increase the risk. Additional longitudinal studies that address this issue are thus needed.

Most longitudinal studies in this field have investigated the effects of terrorist events while only a few have assessed potential consequences of natural disasters. Furthermore, few studies have involved European populations. The present report is based on data from a sample of Norwegians who survived the 2004 Southeast Asia tsunami, implying that the participants had been exposed to a well-defined, sudden-onset, short-duration disastrous event. Moreover, they were all repatriated shortly after the disaster. Therefore, the dataset offers a unique opportunity to identify potential effects of the primary trauma exposure.

The purpose of this study was to investigate long-term changes in alcohol consumption among individuals exposed to a natural disaster. More specifically, we aimed to examine whether alcohol consumption changed from 6 to 24 months postdisaster and whether an increase or decrease in alcohol consumption was related to severity of disaster exposure, post-traumatic stress, psychological functioning, and demographic variables.

Methods

Participants

All Norwegian nationals who had been in Southeast Asia during the 2004 tsunami were registered by the police as they returned to Norway. The Norwegian Centre for Violence and Traumatic Stress Studies got permission to use this registry for scientific purposes by the Regional Committee for Medical Research Ethics and the Norwegian Social Science Data Services. All registered adults (aged 18 years and older) were requested by mail to complete a questionnaire at 6 and 24 months postdisaster. A total of 899 individuals (36.4%) returned a questionnaire at 6 months, 1179 (47.8%) responded at 24 months, and 674 (27.3%) responded at both assessments. Because of missing data on alcohol consumption at the first and/or second assessment(s), our analyses were confined to 649 individuals. The respondents were of similar age and had a similar sex distribution compared to non-responders.[20] Attrition was negatively associated with exposure to the tsunami and the severity of post-traumatic stress symptoms.[20] Our study sample consisted of 53% women. At the time of the disaster, the mean age was 44.1 years (sd = 12.9), 61% had more than 12 years of education, 75% were employed, and 70% were married or cohabiting. The employment and marital status of participants was similar to the age- and sex-adjusted Norwegian population.[13]

Measures

Disaster exposure

At the first assessment, participants were asked in detail about their exposure to stressful aspects of the tsunami[21] and classified into three groups according to exposure severity: not exposed, non-danger exposed, and danger exposed.[13,15,22] The 'not exposed' group included individuals who reported no contact with the waves or flood, no physical injuries to themselves or a close relative, no loss of a relative, no fear for the safety of relatives, and no witnessing of death or suffering of others. This group was used as the reference population in this study. The 'non-danger exposed' group included individuals who experienced some disaster-related exposure but no life-threatening situations. The 'danger exposed' group included individuals who had life-threatening experiences, such as having been caught, touched, or chased by the waves or flood.

Post-traumatic stress symptoms

At both assessments, the Impact of Event Scale-revised (IES-R)[23] was applied. It comprises 22 items measuring symptoms of intrusion, avoidance, and arousal during the previous week. The participants responded to each item on a five-point Likert scale, with regard to their experience with the tsunami. The mean IES-R score was calculated as a measure of the severity of post-traumatic stress symptoms. Previous research has demonstrated a high scale–construct validity and test–retest reliability of this inventory,[24] and a high internal consistency was revealed in the present study (Cronbach alpha = 0.96 at both assessments).

General psychopathology

The 28-item General Health Questionnaire (GHQ-28)[25] was used as a measure of general psychopathology during the last weeks at the first assessment. We used GHQ-28 total and subscale (somatization, anxiety, social dysfunction, depression) mean scores, derived from participant responses on a four-point Likert scale. The GHQ-28 has high sensitivity and specificity for the identification of clinical diagnostic cases,[25] and a high internal consistency was revealed in the present study (Cronbach alpha: total = 0.95, somatization = 0.87, anxiety = 0.89, social dysfunction = 0.90, depression = 0.92).

Social support and social withdrawal

At the first assessment, the Crisis Support Scale[26] was applied. Participants responded to the items on a 7-point Likert scale,