

Childhood parental loss and alcohol dependence among Japanese men: a case-control study

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There have been many studies in the literature examining childhood parental loss as a risk factor for adult psychiatric disorders such as depression, schizophrenia or anxiety disorders. However, with regard to alcohol dependence, only a limited number of such studies exists, and these have reported inconsistent findings. The present paper aims to examine the relationship between early parental loss and subsequent development of alcohol dependence among Japanese men. We directly interviewed 75 men with alcohol dependence (according to DSM-III-R), who were visiting 23 psychiatric hospitals and clinics all over Japan, and 52 healthy controls without any lifetime psychiatric diagnosis, drawn from a general population. When stratified for sex and age, there was no statistically significant difference between the patients and the controls in the rates of maternal or paternal death or separation before the age of 16 years. These findings and the review of the literature suggest that the relationship between childhood parental loss and alcohol dependence is not a straightforward one.

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Introduction

Many studies have examined childhood parental loss as an important risk factor for adult psychopathology, including most notably depression (1–5), schizophrenia (6–10) and anxiety disorders (11–15). With regard to alcohol dependence, however, only a few of studies have examined the relationship between early parental loss and the disorder, notwithstanding the great public health significance of alcohol dependence. An extensive search of the literature using MEDLINE and further hand-searching of the references cited in the literature revealed only seven studies, and those studies reported mixed results.

Hilgard et al. (7, 16) compared the incidence of death of a parent among 929 alcoholic patients from a state hospital and 1096 controls from a nearby community. They found a statistically significant difference in the incidence of death of both father and mother between young male alcoholics and the controls, but no significant difference in the rate of death of either father or mother

between female alcoholics or older male alcoholics and the controls.

According to the study by Oltman et al. (17) of 200 alcoholics and 230 controls (consisting of hospital employees), the incidence of parental deprivation, including both death and separation, was quite similar between these two groups. Moreover, Pitts et al. (18) were unable to find a statistically significant difference in parental deprivation during childhood between 62 alcoholic patients who were consecutively visiting the psychiatric department of a general hospital and a group of controls, matched for sex, age, and marital and socioeconomic status, who were visiting the medical and surgical departments of the same hospital.

Dennehy (19) found that among male alcoholics there was a significant increase in the incidence of death of both parents, and that among female alcoholics there was a higher incidence of death of the mother, when he compared the data for 1020 psychiatric patients with the expected incidence of

loss of parents calculated from the national census data.

In a large study involving patients with various psychiatric diagnoses and a control group drawn from the general population, Birtchnell (20) adjusted for the expected incidence of bereavement by the decade during which the subject was born, and found that the alcoholic men showed no significant difference between the observed and expected values. The number of alcoholic women who had experienced parental death, on the other hand, exceeded the expected number to a statistically significant extent.

Tennant et al. (21) studied 40 alcoholic patients who were admitted to a specialized in-patient facility and 123 controls attending general medical practitioners, and found that childhood parental loss through separation but not through death was significantly more common among alcoholics than in controls.

An epidemiological study of female twin pairs also found that childhood parental loss through separation but not through death significantly increased the risk for alcoholism in adulthood (22). Because their data were based on twins, covariance structure analysis allowed examination of the causality of the association between childhood parental separation and alcoholism. The authors concluded that, while a significant proportion of the association is due to non-causal genetic mechanisms (i.e. it is mediated by genetic factors, with parental loss serving as an index of genetic susceptibility to alcoholism), childhood parental loss is probably a direct and significant environmental risk factor for the development of alcoholism in women.

Further evidence for the relationship between alcoholism and early parental loss comes from two studies on adolescent psychopathology. Data from a 15-year longitudinal study of 939 children showed that exposure to parental separation led to a small but detectable increase in the risk of adolescent substance use disorders at the age of 15 years (23). Similarly, Isohanni et al. (24) found that the risk of drinking alcohol and having been drunk by the age of 14 years was increased among children whose parents had divorced or whose same-sex parent had died.

The Group for Longitudinal Affective Disorders Study (GLADS) in Japan has been conducting a multi-centre prospective follow-up study of a broad spectrum of affective disorders under the sponsorship of the Ministry of Health and Welfare (25). In the first stage of the collaborative study we screened representative samples of all the psychiatric patients visiting the participating centres and collected data on their childhood parental loss. We

have also conducted a separate general population study in a city in Japan, in which we inquired about the inhabitants' experiences of early parental loss using the same interview format. The present paper aims to examine the postulated relationship between early parental loss and subsequent development of alcohol dependence in a Japanese sample.

Material and methods

Of a total of 1963 subjects (938 men and 1025 women) who were representative of first-visit patients to the 23 hospitals and clinics participating in the GLADS Project, who were aged 16 years or over, and for whom relevant information concerning early separation experiences was available, 82 subjects (75 men and 7 women) were diagnosed with alcohol dependence according to DSM-III-R by a psychiatrist using a semi-structured interview known as the Psychiatric Initial Screening for Affective disorders (PISA) (26). Because there were only 7 female alcoholics and their data are therefore not amenable to statistical comparison, in the following account, we shall focus on the data for the 75 male patients with alcohol dependence.

The 23 hospitals and clinics included psychiatric departments of 11 university hospitals, 7 general hospitals, 3 mental hospitals and an out-patient clinic, and the psychosomatic department of a university hospital, from all over Japan. Each hospital and clinic examined a representative subset of its first-visit patients according to the predetermined rules. In certain centres, a representative subset referred to all of the first-visit patients examined by the psychiatrist(s) participating in the GLADS Project; in others, it referred to all the first-visit patients on a certain day of the week, while in yet others it referred only to the first such patient to show up on a certain day of the week. The selection of these pre-set rules was left to the individual centre, as time and human resources varied from one hospital to another.

DSM-III-R diagnoses were made by the psychiatrists who administered the PISA. The PISA lists 33 symptoms corresponding to the diagnostic criteria for schizophrenia, mood disorders, anxiety disorders, somatoform disorders, dissociative disorders, organic mental disorders and substance use disorders, and the inter-rater reliability of these psychopathological variables has been reported to range between kappa values of 0.71 and 1.00 (median=0.85) (25). The PISA also contains a section enquiring about each parent's current age if alive, or each parent's age and the patient's age when the parent died, and whether and when the patient lived apart from each parent for a period

longer than 1 month before the patient's 16th birthday. The reason for separation was also to be specified. In the event of more than one period of parental separation, regardless of the cause, only the first separation was considered. We were thus able to collect data on the patients' parental loss through direct and systematic interviewing.

Control subjects were drawn from a separate epidemiological study in a small city in Japan (27). A total of 218 inhabitants (95 men and 123 women) aged 18 years or over were successfully contacted by lay interviewers trained in the use of a semi-structured psychiatric interview known as the Time-Ordered Stress and Health Interview (TOSHI) (28). In total, 70 subjects were found to have lifetime diagnoses of one or more DSM-III-R disorders, and for a further 26 subjects relevant information concerning early separation experiences was lacking. In the following account, data for the 52 men from the remaining 122 healthy control subjects were therefore used. The inter-rater reliability (intra-class correlation) of the TOSHI, using case vignettes, was 0.75 for major depressive episode, 0.41 for dysthymia, 0.75 for manic episode, 0.60 for generalized anxiety disorder, 0.85 for panic disorder, 0.48 for phobic disorder and 0.64 for obsessive-compulsive disorder (29). The section of the TOSHI that deals with early loss experiences is identical to that of the PISA.

Results

The incidence of death of or separation from either parent among the men with alcohol dependence and the healthy controls is shown in Table 1. The rates are reported separately for subjects under the age of 54 years and those above 55 years, because it was observed that the rates of parental loss differed depending on whether the subject was born before or after World War Two (the studies were conducted between 1992 and 1995, and subjects above the age of 55 years were more likely to have experienced parental death or separation in childhood), and because the mean age was significantly different between the patients and controls (mean age±SD=47.9±10.9 vs. 56.3±15.8 years; *t*=-4.18, *df*=202, *P*<0.001).

Neither the rates of death of nor separation from either parent differed significantly between the men with alcohol dependence and the healthy controls according to Chi-square or Fisher's exact tests.

Among the male alcoholics, the father's death was due to illness (78%), accident (11%) or unknown causes (11%), and the mother's death was due to illness (75%) or unknown causes (25%).

Table 1. Incidence of death of or separation from either parent among men with alcohol dependence and healthy male subjects, stratified for sex and age^a

	Subjects with alcohol dependence (n=75)		Control subjects (n=52)	
	16-54 years (n=53)	≥55 years (n=22)	16-54 years (n=18)	≥55 years (n=34)
Death of father	6 (11.3%)	3 (13.6%)	1 (5.6%)	3 (8.8%)
Death of mother	3 (5.7%)	1 (4.5%)	2 (11.1%)	3 (8.8%)
Separation from father	3 (5.7%)	2 (9.1%)	2 (11.1%)	10 (29.4%)
Separation from mother	2 (3.8%)	4 (18.2%)	3 (16.7%)	7 (20.6%)
Any loss of father	9 (17.0%)	5 (22.7%)	3 (16.7%)	12 (35.3%)
Any loss of mother	5 (9.4%)	5 (22.7%)	4 (22.2%)	9 (26.5%)

^a No statistically significant differences between patients and controls (Chi-square test or Fisher's exact test).

Among the healthy male controls, the father's death was due to illness (75%) or unknown causes (25%), and the mother's death was due to illness (100%). Among the patients, the reasons for separation from the father were the patient's own illness (20%) or unknown causes (80%); the reasons for separation from the mother were the patient's own illness (17%) or unknown causes (83%). Among the controls, separation from the father was due to the father's illness (17%), the father's work (25%), adoption (17%) or unknown causes (42%), and separation from the mother was due to the mother's illness (20%), adoption (20%), parental divorce (10%) or unknown causes (40%).

Discussion

The present short report has presented, in essence, evidence arguing against the postulated increase in childhood parental loss among Japanese men with alcohol dependence. Thus it replicated the findings of Oltman et al. (17), Pitts et al. (18) and Birtchnell (20), but is inconsistent with those of Hilgard et al. (7), Dennehy (19) and Tennant et al. (21). Although he did not specifically address the influence of early parental loss, Vaillant (30) also found in a well-known long-term prospective study of Harvard University male students that childhood environment could not predict later development of alcoholism.

The discrepancy could be due to one or more of the following reasons. First, our failure to detect a statistically significant difference might be attributable to the low statistical power of our data. However, visual inspection of the results obtained

reveals that the rates of parental loss were in fact not elevated among our patient sample, and our failure to find a statistically significant difference was in all likelihood not due to a type-II error. Moreover, we believe that negative evidence also merits a report in the literature in order to avoid publication bias or the so-called 'files-in-the-drawer' phenomenon, especially in view of the recent emphasis on systematic reviews or meta-analyses. Furthermore, because of the small sample size, we were unable to examine the influence of the child's age at the time of his or her parent's death or separation. The consequences of the loss of the parent may be substantially different depending on whether the child is 3 or 15 years old at the time, but such effects have yet to be investigated. Secondly, previous reports about the relationship between parental loss and alcoholism have all been based on data from Western countries, but the present study concerns a Japanese sample. Any discrepancy between these studies could be due to the known racial differences in the metabolism of alcohol and in the susceptibility to alcohol dependence between Caucasoids and Mongoloids (31) and/or to the cultural differences in attitudes towards alcohol consumption between Western and Asian societies (32, 33). We must await further reports from Asian countries in order to elucidate the effect of racial and cultural differences in the possible association between childhood loss and alcoholism. Thirdly, it must be noted that neither Hilgard et al. (7), Oltman et al. (17) nor Dennehy (19) specified the diagnostic criteria for alcoholism. Tennant et al. (21) used the DSM-III criteria, and Kendler et al. (22) and Fergusson et al. (23) used the DSM-III-R criteria for alcohol dependence, and the latter two studies are thus comparable to our investigation in this regard, although their subjects were restricted to females or to adolescents and are therefore not comparable to ours in those respects. It goes without saying that any future research should employ standard operational criteria so that readers can judge whether the samples studied are comparable. Fourthly, as mentioned above, the samples studied in the previous reports and our own investigation were recruited from various sources. Some were from psychiatric hospitals and some were from general population, some were restricted to one sex and some were restricted to adolescents around the age of 15 years. Even the control subjects were drawn from various sources, such as community samples, hospital employees, visitors to general practitioners or national census data. It is therefore not surprising that the results obtained are not always consistent with each other. Last but not least, it must not be forgotten that alcoholism is apparently a heter-

ogeneous disorder. Neither our investigation nor any of the previous studies subclassified alcoholic patients and examined the influence of early parental loss separately for the subtypes such as primary/secondary (34) or type 1/type 2 (35) alcoholism. It is possible that parental loss may be a risk factor for one particular subtype but not for the others, and that amalgamating the subtypes may have masked the pathogenic association.

With these caveats in mind, the present findings and the review of the literature lead us to conclude that the relationship between early parental loss and subsequent development of alcohol dependence is not a straightforward one.

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