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Substance use disorder (SUD) morbidity versus number of parents with SUD

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Abstract

Objectives: To assess the association between numbers of parents (i.e., 0, 1 or 2) with Substance Use Disorder (SUD) and proband's SUD severity and morbidity.
Design: Descriptive, cross-sectional.
Settings: Alcohol–drug treatment programs in two university medical centers.
Subjects: 597 voluntary patients aged 18 and older with SUD; adoptees excluded.
Results: On univariate analysis, parental SUD was associated with ten characteristics. On logistic regression analysis, having any parental SUD was associated with lower socioeconomic status, younger age at using tobacco, more severity on M-SAPS, and lower psychosocial function in the last year (Axis 5) as threshold effects. Logistic regression analysis comparing 1 versus 2 parents with SUD showed that those with 2 SUD parents began using alcohol at an earlier age as compared with having 1 SUD parent; this was an additive effect.
Conclusions: Parental SUD affects the proband's SUD severity in a threshold fashion.

Keywords: Family; Substance use disorder; Severity; Treatment history

1. Introduction

A positive family history is one of the most significant risk factors associated with Substance Use Disorders (SUD) (Bierut et al., 1998; Meller, Rinehart, Cadoret, & Troughton, 1988; Rounsaville et al., 1991). Merikangas et al. reported an 8-fold increased risk of SUD in relatives of probands with SUD (Merikangas et al., 1998), while the Collaborative Study on the Genetics of Alcoholism showed a 2-fold increased risk of alcohol dependence in relatives of probands with alcohol dependence (Nurnberger et al.,

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2004). Twin studies (Gynther, Carey, Gottesman, & Vogler, 1995; Kendler, Jacobson, Prescott, & Neale, 2003; Tsuang et al., 1996, 1998) and adoption studies (Cadoret, Troughton, O'Gorman, & Heywood, 1986; Cadoret, Yates, Troughton, Woodworth, & Stewart, 1996) have demonstrated that SUD is correlated with genetic and environmental factors. A large twin study demonstrated that only SUD had substantial disorder-specific genetic risk among seven psychiatric disorders (Kendler, Prescott, Myers, & Neale, 2003). Genetic factors have been seen as accounting for 31% to 34% of the variance in the clinical features of SUD (Tsuang et al., 1996, 1998).

Several studies have also indicated a relationship between family history and certain dimensions of addiction severity. For example, alcoholics with positive family history tend to have had earlier onset of alcoholism, more severe alcohol-related physical symptoms, more academic, social, and employment problems, more antisocial personality disorder, and more psychopathology (Conway, Swendsen, & Merikangas, 2003; Cook & Winokur, 1985; Frances, Timm, & Bucky, 1980; McKenna & Pickens, 1981; Schuckit, 1984; Templer, Ruff, & Ayers, 1974). In two studies, patients with two alcoholic parents have manifested more problems and more alcohol-related symptoms (Schuckit, 1984; Stabenau, 1984). Probands with two affected parents had higher alcohol abuse scores on the Michigan Alcohol Screening Test (MAST) and higher Addiction Severity Index (ASI) scores on drug, alcohol, family, and psychiatric scales than those with no parental history (Boyd, Plemons, Schwartz, Johnson, & Pickens, 1999), but no significant differences on the medical, employment, and legal scales of the ASI.

Studies of patients in methadone maintenance programs have provided similar evidence. Pickens et al. reported that opioid addicts with positive family histories for substance problems had earlier onset of heroin use and more opioid dependence symptoms, but no differences on duration of heroin use, onset of heroin dependence, and total number of dependence diagnoses (Pickens et al., 2001). Another study observed that more asocial behavior and medical problems accompanied familial SUD density (Coviello, Alterman, Cacciola, Rutherford, & Zanis, 2004).

Methods for ascertaining parental SUD have varied. In the study by Boyd and coworkers, parental substance use depended on the query, "State whether your mother/father had a drug or alcohol problem" (Boyd et al., 1999). In the Pickens and colleagues study, family history was defined as positive if either parent had "substance problems" (Pickens et al., 2001). Coviello et al. classified family history within three risk groups, i.e., high risk, medium risk, and low risk, based on subjects' self-report of their relatives' substance use (Coviello et al., 2004). In the Irish study of Alcohol Dependence on family history validity, probands provided family data that were highly consistent with multiple informants (Prescott et al., 2005).

The purpose of this study is to extend our knowledge regarding the relationship between addiction severity and the number of biological parents with SUD. In particular, areas not addressed in earlier studies have been emphasized (i.e., periods of abstinence, treatment history, psychosocial function). In order to relate our findings to earlier studies, data on course and symptom severity were undertaken. The subjects were classified into three groups according to the number of parents with SUD (0, 1, or 2), using a structured interview. Based on published data, our hypotheses were as follows:

No parental effect: Number of parents with SUD is not associated with proband's demographic characteristics (i.e., age, gender, education, marital and employment status, socioeconomic status).

Threshold parental effect: Having any parent with SUD is associated with course, severity, and treatment of SUD, but number of parents with SUD does not affect course or treatment.