

## A family history of alcoholism relates to alexithymia in substance use disorder patients

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### Abstract

**Objectives:** Previous research identified alexithymia as a potential risk factor for substance use disorders (SUD). More insight into the relation between alexithymia and SUD is needed in order to treat SUD effectively. Therefore, we investigated whether a familial vulnerability to alcoholism relates to the presence and severity of alexithymia in SUD patients.

**Method:** Hospitalized, abstinent SUD-patients ( $n = 187$ ), were assessed with the Toronto Alexithymia Scale (TAS-20) and Addiction Severity Index (EuropASI). A maternal, paternal, and total continuous measure of the Family History of Alcohol (FHA) was developed. Kruskal-Wallis tests and Spearman correlations were used to relate the composite scores of FHA to alexithymia as a categorical and continuous measure. Multivariate regression models were performed to control for the effects of confounders on the relation between FHA and alexithymia.

**Results:** Compared to moderate (33%) and low (17%) alexithymic SUD-patients, high alexithymic (50%) patients were more likely to have fathers with alcohol problems ( $P = 0.004$ ). Such a difference was not found for mothers with alcohol problems. The composite FHA-score was significantly associated with alexithymia ( $R_s = .19$ ,  $P = 0.01$ ). However, only a paternal FHA, independent from disturbed family functioning, related to the degree of alexithymia ( $\beta = .13$ ,  $P = 0.06$ ), especially to the Difficulty Identifying Feelings as measured by the TAS-20 ( $\beta = .16$ ,  $P = 0.02$ ).

**Conclusions:** The relation between a paternal FHA and a higher degree of alexithymia in SUD-patients suggests that alexithymia could mediate the familiarity of alcoholism or SUD in the paternal line.

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### 1. Introduction

Sifneos first described the notion of alexithymia in 1973 [1] as the inability to express emotions or feelings. Alexithymia is mostly seen as a personality construct characterized as a deficit in the ability to cognitively process and regulate emotions [2]. Whereas the prevalence of alexithymia in population-based studies varies between 8% and 15% [3], rates of up to 67% have been reported in patients with alcohol use disorders (AUD) [4] and up to 50% in patients with other substance use disorders (SUD) [5,6]. In socio-demographic studies, alexithymia has been associated with older age, low educational level, low socio-economic

Funding: The Dutch Ministry of Health, Welfare and Sports (VWS) and the Dutch Organization for Health Research and Development (ZonMW) provided financial support for this study. The funding agreement ensured the authors' independence in designing the study, interpreting the data, and writing and publishing reports (grant no. 985-10-018).

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status, poor perceived health, and depression, although not all of these associations have been consistently observed in all studies [7–9]. Additionally, in SUD, alexithymia was related to state-anxiety and depression [10]. As alexithymia has been described as a potential risk factor for SUD, and in some studies, it has been related to negative treatment outcomes, improving the understanding of the relation between alexithymia and SUD could be of importance in the treatment of SUD and the optimization of treatment interventions [4,11,12].

In the context of further research into the relationship between alexithymia and AUD, in particular in view of the potential role of alexithymic traits in the etiology of AUD, three previous studies looked at the effect of a family history of alcoholism (FHA) on alexithymia [13–15]. One study found strong alexithymic features in non-alcoholic sons with an extensive generational paternal history of alcoholism, but not in non-alcoholic sons without any family history or with alcoholic fathers without an extensive family history [13]. In the second study consisting of 100 male patients with alcohol dependence, no relation between a FHA and alexithymia was found [14]. However, both studies assessed alexithymia using the Sifneos-Schalling Personality Scale (SSPS), which lacks sufficient validity and internal reliability [2]. The most recent study conducted with a non-clinical population found an association between the Toronto Alexithymia Scale (TAS-20) and being the offspring of an alcoholic parent, as defined by the Children of Alcoholics Screening Test (CAST) [15]. This population comprised 314 volunteers (54% female and 53% university students) aged 18–45 years, all of whom reported at least occasional alcohol consumption and 6% using an illicit drug more than once per month. Unfortunately, the results were limited in specificity because the CAST does not allow differentiation between mothers or fathers with alcohol problems.

A substantial genetic influence of alexithymia has been demonstrated in a small and extensive twin pair study. This was replicated in a study that controlled for depressive symptoms [16–18]. Results from the first, small study [16] indicated that familial influences contributed to all 3 subscales of the TAS-20, i.e. Difficulty Identifying Feelings (DIF), Difficulty Describing Feelings (DDF) and Externally Oriented Thinking (EOT). The results also suggested that DIF and DDF were primarily influenced by nongenetic shared family environmental factors and EOT by genetic factors. However, because of the very small sample (77 twin pairs) and the way of recruiting, the different results could be due to selection bias [17]. Therefore the authors are not very confident concerning the distribution of the genetic and shared family environmental factors to the subscales of the TAS-20 [16]. The two other larger studies (8,785 [17] and 729 [18] twin pairs) found no differences between the subscales of the TAS-20. The Danish study [17] found nonshared environmental effects of 50–56%, heritabilities of 30–33% and 12–20% of the variance of the alexithymia scores being explained by shared environmental effects. In

the Italian study [18] nonshared environmental factors accounted also for most of the variation in the TAS-20 and its subscales. When corrected for depression and gender a heritability factor of 33% was found for the total TAS-20, with no significant differences between the subscales. No significant contribution of shared environmental influences on alexithymia was found [18].

Based on this genetic and familial influence, a higher percentage of alexithymia is expected in parents and other family members of alexithymic patients. As alexithymia and alcohol use disorders are related, this could be a reason for more alcohol problems in the relatives of alexithymic patients [4,15]. However, in alexithymic patients with SUD or AUD, other genetic, environmental or familial mechanisms could of course have an important role in the alcohol problems of their relatives [19].

As part of an often shared environmental or familial mechanism, problems with alcohol in parents could result in neglecting their child's emotional states, leading to emotional self-regulation deficits, such as alexithymia. The latter has been shown in a recent meta-analysis on parental bonding and alexithymia [20]. A lack of maternal care, but also maternal and paternal overprotection, related to alexithymia [20]. In line with this, a disturbed family functioning has been found to relate to the development of alexithymic characteristics [21]. Similar finding was observed for a history of neglect or sexual abuse, regardless of whether it occurred within the family [22–24].

In this study, our aim was to test the hypothesis that the presence of a FHA would be related to higher levels of alexithymia in SUD-patients while controlling for disturbed family functioning and other variables, representing a combination of shared and unshared environmental issues.

## 2. Method

### 2.1. Subjects

Participants were SUD inpatients from three addiction treatment centres in the East and South part of the Netherlands. The study sample participated in a randomized controlled trial investigating a Shared Decision Making Intervention (SDMI) in addiction health care that was carried out between January 2005 and December 2006 and published in 2009 [25]. Overall, 187 of the 212 participants (88%) in the RCT were willing to participate in the alexithymia study and were assessed accordingly. No distinction was made for the kind of substance(s) used. Exclusion criteria were being younger than 18 years of age, insufficient knowledge of the Dutch language, severe psychiatric co-morbidity precluding their participation in the SDM-intervention, or no signed informed consent. All patients have been diagnosed according to *DSM-IV-TR* as having one or more substance related disorders. The Dutch Ethical Assessment Committee for Experimental Investigations on People (No. 4.108) approved the study, and all participants gave written informed consent.

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