

Category: Genetics

Title: Sex Differences in the Sources of Genetic Liability to Alcohol Abuse and Dependence in a Population-Based Sample of U.S. Twins

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Background: There is a substantial sex difference in all levels of alcohol involvement among U.S. adults. Genetic influences are important in the etiology of alcoholism among men, however, the role of genetic influences among women is less clear. This article studies for the first time a population-based sample from the United States to assess genetic vulnerability to alcohol use disorders.

Objective: To assess the differences in genetic factors for men and women influencing alcoholism in a US population-based twin study.

Type of Article: Study

Design: Structured personal interviews were used to assess DSM-III-R and DSM-IV to find alcohol abuse and dependence in a population-based twin registry.

Setting: US population-based of Mid-Atlantic and Virginia twins.

Patients: 5,091 male and 4,168 female twins born in Virginia between 1934 and 1974. (1546 identical (monozygotic), 1128 same-sex fraternal (dizygotic) and 1423 opposite sex pairs). The participants were all Caucasian

Intervention : Structured Interview

Outcomes Measured: Lifetime prevalence of alcohol related disorders and the twin correlation were analyzed using structural equation modeling.

Main results or findings: Twin pairs resemblance was similar across several definitions of alcoholism and were substantially higher in identical (monozygotic) than fraternal (dizygotic) twin pairs. The proportion of population variation liability attributed to genetic factors were similar in both men and women, 51%-56% vs.55%-66%, respectively.

Conclusion/Limitations: Genetic factors play a major role in the development of alcoholism in both sexes. The magnitude of genetic influence was equally high for men and women. Genetic sources of vulnerability are partially, but not completely overlapping in men and women. The major limitation is that the study only included Caucasians born in Virginia.

Commentary (Impact on Internal Medicine). There is strong evidence that genetic influences are important in the etiology of alcoholism among men. This study shows the evidence that some genetic influences are occurring in women substance as well as men. This means that the different prevalence of alcohol related disorders seen between men and women cannot be accounted for by differences in genetic vulnerability. It also stresses the importance of a family history with regard to alcohol use in women as well as men. Finally it adds to the medical model of alcohol use disorders in women as well as men.