



Risk Factors for Alcoholism in Native Americans

Overview: Work under this research grant investigates neurobehavioral and genetic risk factors that may contribute to alcohol abuse and dependence in the reservation-dwelling Indians indigenous to San Diego County in southern California (also known as the Mission Indians). The Native American population has been found to have a 60 percent lifetime prevalence rate for the development of alcohol use disorders and alcohol dependence. This long-term study employs both cross-sectional and longitudinal (following subjects over time) approaches in two age-groups (adults/adolescents and children) of Mission Indians to investigate genetic and environmental/behavioral risk factors that may exist prior to initiation of alcohol use and during the development and maintenance of abusive drinking patterns.

Results/Outcomes: This research suggests that remission from alcohol dependence is associated with factors such as being married and female, whereas failure to remit is related to self-reported anxiety. The personality trait, impulsivity, may be related to abusive drinking and specific genetic variants in the cannabinoid receptor 1 gene, which were found to be significantly associated with impulsivity in the Mission Indians sample. In this population, a reduction in the amplitude (or peak) of the P450 brain wave was found only in people with alcohol dependence, suggesting a possible biomarker for alcohol-related problems in this high-risk group.

Over the years, the Principal Investigator has established a long-term relationship with the Mission Indian tribes in the San Diego area. Her knowledge of and respect for the culture of these tribes has made the project possible. The overall goal of this research program is to identify factors associated with risk for alcohol dependence with the purpose of guiding the development and design of effective prevention and treatment intervention programs in this population of Native Americans.

Significance: Nationwide, the alcohol dependency rate is six times greater for Native Americans than for the general population, according to estimates from the U.S. Indian Health Service. Yet research on the various factors contributing to alcohol abuse is very limited given the magnitude of the problem. Especially needed is research on risk factors in the early adolescent period, when abusive drinking patterns may emerge. This research grant is the first to investigate this important area of research. Dr. Ehler's research, conducted under a prestigious NIH Merit Award, is an excellent example of culturally sensitive, biologically based research being conducted among American Indian populations.

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