

Characteristics of Fathers Who Have Children with Fetal Alcohol Syndrome or Incomplete Fetal Alcohol Syndrome

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Abstract:

Objectives: Determine alcohol use, referrals to treatment, receiving treatment, and medical problems related to alcohol among fathers who have children with FAS or incomplete FAS.

Methods: Fathers who had American Indian children with FAS (Study 1) or incomplete FAS (Study 2) were compared with fathers whose children did not have FAS.

Results: About half of case and control fathers had alcohol use and alcohol-related medical problems documented in their medical records. Case fathers were more likely to receive alcohol treatment and have injuries related to alcohol abuse.

Conclusion: Significantly more fathers of children with FAS were referred for alcohol treatment, received alcohol treatment, experienced injuries, and had delirium tremens than control fathers. Fathers of children with incomplete FAS were significantly more likely to drink alcohol, to have received alcohol treatment, and to have alcohol-related medical problems and injuries than control fathers.

INTRODUCTION

Fetal alcohol syndrome (FAS) is the most common cause of preventable mental retardation in the United States.¹ The prevalence of FAS in the Northern Plains Indians is estimated at 8.5 children per 1000 live births.² Most studies of alcohol use among American Indian men and women have shown lower prevalences of drinking within the last year than national rates. However, men have higher rates of alcohol use than women, and many Indian men who drink alcohol have abusive drinking patterns that lead to higher rates of trauma and abusive relationships.³ The role of fathers in the pathogenesis of FAS has not been well studied. The purpose of this study was to identify the characteristics of Northern Plains American Indian men who have children with FAS.

METHODS

The Aberdeen Area Indian Health Service (IHS) and the national IHS Institutional Review Boards and four Northern Plains Tribes reviewed and approved the study protocol. The previously described study methods are briefly summarized.⁴

At four Northern Plains Indian Health Service hospitals or clinics, we identified children with FAS or some characteristics of FAS from 1981-93 by using the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM), code 760.71 (5). This code includes noxious influences (specifically alcohol) affecting the fetus or newborn through placenta or breast milk and includes FAS.

We defined FAS cases as children who met all five of the following criteria based on documentation in their medical records: 1) prenatal alcohol exposure or maternal history of alcohol consumption, 2) FAS diagnosed or noted as a suspected diagnosis by a physician, 3) one or more facial features characteristic of FAS, 4) growth deficiency (height or weight <10th percentile for age), and 5) central nervous system (CNS) impairment.⁶ If children met only 1-4 of these criteria, they were defined as cases having incomplete FAS.⁷

Of 142 medical records in the four communities that had an ICD-9 code of 760.71, 43 (30%) met five FAS case criteria. Of the remaining 99 medical records, 35 with 1-4 FAS case criteria were randomly selected. Thus, this report contains two separate analyses of data: one based on 43 case mothers whose children had FAS compared to 86 control mothers (Study 1), and the second based on 35 case mothers whose children had one to four characteristics of FAS compared to 70 different control mothers (Study 2). In addition, the children who had FAS were compared to the children who had only 1-4 of the FAS criteria. The methods used for both studies were identical. For each case child, we selected two control children from the same community: one who was born immediately before the birth of the child with FAS or the child with some characteristics of FAS and one who was born immediately after the case child. If the control child

had FAS, we selected the next nearest child born. For this study, we abstracted the medical records of the fathers of Study 1 and 2 case and control children if we could identify the father and if his record was available for review. The variables abstracted from the fathers' medical records included the father's use of alcohol, whether or not the father was referred and/or received treatment, and was the father deceased. Additional variables included medical problems related to alcohol including cirrhosis, trauma, driving under the influence, delirium tremens, injuries, gastritis/peptic ulcer and any other medical problems. The entire medical record was reviewed to identify these variables.

We performed a matched analysis using corrected McNemar chi square to determine statistical significance of differences in categorical variables.^{8,9} We calculated odds ratios (OR) and 95 percent confidence limits (CL) to assess the strength and statistical significance of the associations.

RESULTS

In Study 1, we reviewed medical records of 30 case fathers and 65 control fathers. In Study 2, we reviewed medical records of 24 case fathers and 54 control fathers. Over 90 % of Study 1 and 2 case fathers used alcohol, compared to about 70% of control fathers, but this difference attained statistical significance only for Study 2. (Table 1). Study 1 and 2 case fathers were more likely to receive treatment for alcohol

TABLE 1

Percent of fathers: using alcohol, referred to alcohol treatment, receiving alcohol treatment, with medical problems, sustaining trauma and injuries

	Study 1*			Study 2*		
	Cases	Controls	Odds Ratio**	Cases	Controls	Odds Ratio**
Alcohol use	90.0	70.8	2.73 (0.61-16.99)	95.8	70.3	7.77 (1.01-354.84)
Referral to alcohol treatment	56.7	23.1	5.20 (1.39-29.07)	45.8	24.1	2.65 (0.71-12.18)
Received alcohol treatment	43.3	12.3	4.87 (1.24-27.91)	29.2	7.4	8.79 (1.02-413.86)
Medical problems***	80.0	56.9	2.27 (0.74-7.73)	79.2	51.9	3.92 (1.02-22.27)
Injuries***	70.0	38.5	2.56 (1.00-6.78)	70.8	33.3	7.54 (1.64-70.41)
Trauma***	53.3	33.8	1.52 (0.50-4.65)	41.7	27.8	1.85 (0.57-6.50)
Tremens	26.7	3.1	6.69 (1.31-65.40)	20.8	7.4	2.23 (0.62-18.15)

* None of the differences between Study 1 and Study 2 cases are statistically significant.

** 95 percent confidence limit in parentheses.

***Related to alcohol abuse

abuse and to sustain alcohol-related injuries than the control fathers. Study 1 case fathers also had more referrals for alcohol treatment and delirium tremens. Rates of alcohol-related medical problems, trauma and injuries were high in both case fathers (53.3-80.0%) and control fathers (33.8-56.9%).

DISCUSSION

Although the role of fathers in the pathogenesis of FAS has not been well studied, if they drink abusively when their spouse is pregnant, the mother may be more likely to drink, thereby increasing fetal alcohol exposure.¹⁰ One study found that fathers of children with FAS drank heavily.¹¹ Men who drink alcohol have a strong influence on their female partners. Women are more likely to drink, if their partners drink alcohol.¹² Although there are few studies of alcohol cessation during pregnancy,¹³ experience in smoking cessation suggests partner support is a critical factor in behavior change.¹⁴ A multi-faceted intervention strategy for reducing substance use in high-risk women, including enlisting positive action of the male partner, has been effective in promoting abstinence among pregnant women.¹⁵ American Indians who binge drink experience many alcohol-related problems. In the overall American Indian population, the rate of alcohol-related diagnoses for men was twice as high as the rate for American Indian women.¹⁶ The Indian Health Service has provided treatment programs for American Indians since 1975. Some tribes have begun to use traditional culture and practices in alcohol treatment programs.¹⁶

The role of men in prevention of FAS has been neglected. Both case and control fathers in our study have high rates of alcohol-related medical problems and injuries. The case mothers of the same children also experienced significantly more injuries due to alcohol use.⁴ Based on the 1985 National Family Violence Survey, American Indian women were significantly more likely to experience partner violence when their partners drank alcohol in binges.¹⁷ Injuries among pregnant women have been found to be a risk factor for having a child with FAS.⁴ With over one-half of the case and control fathers having alcohol use recorded in their medical records, and since young men do not access health care as frequently as women,¹⁸ innovative approaches are needed to screen them for alcohol use and to provide education on FAS, such as:

1. Initiate routine alcohol screening for all patients who receive treatment for injuries with an organized program for further evaluation and treatment of the patients who have alcohol problems detected through the screening.

2. Offer family therapy and alcohol treatment services in cases where alcohol abuse is a problem for the father, mother, or both parents.¹⁵
3. Promote attendance of fathers at antenatal clinics and screen them for alcohol use/abuse at that time.¹⁸
4. Develop programs specific to the needs of men.¹⁹

The limitations of the study included the following:

1. We were unable to interview the fathers. However, the Indian Health Service has a unified medical record that includes inpatient, outpatient and emergency room records, which provided extensive information on most of the fathers.
2. The use of alcohol may have been underreported in the medical records, especially if no alcohol-related medical problems or injuries were documented.
3. The father could not be identified or his medical record could not be found for about a third of the cases and a fourth of the controls. It is impossible to know the impact that the missing data on these fathers has on the study results.
4. The small study size reduced the power of the study to detect differences between the case and control fathers. If the study had been larger, more of the differences between the case and control fathers would probably have been significant.

CONCLUSION

Men who abuse alcohol and experience injuries need intervention whenever they present at the hospital or clinic. Men abusing alcohol should have a chemical dependence assessment completed to determine the extent of their alcohol problem, especially if their partners are pregnant. Based on this assessment, appropriate treatment should be provided to the men. More research is needed on the male's role in the prevention of FAS.

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