

FETAL ALCOHOL SYNDROME - THE SOUTH AFRICAN NIGHTMARE

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A previous study has shown that the highest prevalence of FAS worldwide is among first-grade children in a wine-growing region in the Western Cape province of South Africa. Investigators for the National Institutes of Alcoholism and Alcohol Abuse (NIAAA) reported a FAS prevalence of 40.5 to 46.4 per 1,000 children aged 5-9 years in one community in a wine-growing region in the Western Cape province of South Africa¹. For the sake of comparison, the prevalence of FAS in the United States varies from 0.3 to 1.5 per 1,000 live-born infants².

The specific aim of this study was to determine whether FAS was associated exclusively with the wine-growing region in the Western Cape or was as prevalent also in other areas of the country.

The authors conducted a prevalence study where they selected four communities on the basis of their willingness to participate and ability to represent the various racial/ ethnic groups in Gauteng province. Critically, none of the regions was a wine growing area. A two-stage screening and case-finding method was used to identify children with FAS.

In the first stage (screening), the weights, heights, and head circumferences of all first grade children in selected schools were measured, and the World Health Organization (WHO) international growth reference curves were used for weight and height due to the lack of local growth reference curves.

In the second stage (case ascertainment) all screen-positive children and whenever possible,

screen-negative children, received a physical evaluation. A diagnosis of "FAS," "deferred", or "not FAS" was determined.

Among 19 participating schools from the four non-wine-growing communities, 830 children in first grade were screened for growth retardation (median age 6.5 years). A total of 306 (37%) children screened positive for weight and height or for head circumference below the 10th percentile. Of the 306 screen-positive children, 275 (90%) were available for the FAS clinical evaluations. For purposes of comparison, another 207 children from the screen-negative group were included. A total of 482 children received clinical evaluations.

Of the 275 screen-positive children examined, 21 (8%) received a diagnosis of FAS (n =16) or deferred (n = five). A deferred diagnosis was made on one child from the screen-negative group; however, none of the screen-negative group received FAS diagnosis. The median prevalence for FAS alone among first-grade children in the four communities was 19 per 1,000 children (range: 0-37.5). When FAS and deferred diagnoses were combined, the median prevalence was 26.5 per 1,000 children (range: 11.8-41.7) in the four communities.

The authors' findings confirm the earlier report of high prevalence of FAS in the Western Cape province. Critically, it also concludes that the high prevalence of FAS among first-grade children is not a function of the availability of alcohol in the wine-growing regions of South Africa, although the rates varied by community.

In an editorial published with the article by Viljoen et al³, they noted that the sensitivity of the screening procedures was high (96%) but the positive predictive value was only 8%, indicating that a large number of children without FAS was examined.

Screening was relatively easy and cost-

effective, and eliminated unnecessary clinical examinations of children who do not meet the growth retardation criteria for FAS. Using growth measures for FAS screening in a high-prevalence population is advantageous and can be used to refine the screening tool and improve the positive predictive value by adjusting the screen-positive percentile cut points for future FAS screening, case-finding, and surveillance activities in South Africa.

There are several limitations to this study. First, many children with severe FAS might not attend public schools, or might have died before school-entry age.

Second, screening based on physical development will miss the many children with alcohol related neurodevelopment delays who may have normal growth curves. Hence a closer to truth prevalence study must include programs dealing with developmental disabilities.

Third, the late age at identification represents missed opportunities for early diagnosis and education interventions for children and for

intervention with high-risk mothers who might have given birth to additional children with FAS.

The screening and case-finding approach described in this report can be useful for identifying high-risk communities and targeting scarce prevention resources. On the other hand, not including in the screening process a tool that detects developmental disabilities is like searching for a key in the dark where the light is, and not where the key is.

REFERENCES

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