

FETAL ALCOHOL SYNDROME PREVENTION IN AMERICAN INDIAN COMMUNITIES OF MICHIGAN'S UPPER PENINSULA

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Abstract: Attitudes and knowledge about Fetal Alcohol Syndrome (FAS) were examined among American Indian communities of Michigan's Upper Peninsula. Indian health workers and community women were interviewed. Education about FAS was provided in each community. The results indicate that information on FAS is reaching many women in these communities and that traditional cultural patterns can support the development of a strong Indian women's health program. At the same time, more must be done in the near term to help those women who are at greatest risk.

Fetal Alcohol Syndrome (FAS) is a totally preventable birth defect found in children of mothers who consumed large amounts of alcohol during pregnancy. Children who are diagnosed with FAS typically have low birthweight, characteristic facial deformities, and signs of mental retardation. The term Fetal Alcohol Effects (FAE) is given to children of mothers who had consumed substantial amounts of alcohol during their pregnancy and who exhibit only part of the syndrome (Smith, 1981). FAE may also be produced by older women who are moderate drinkers.

The amount of alcohol which can be safely drunk during pregnancy is unknown. Timing of alcohol use during pregnancy, maternal age, and parity all appear to be variables. It is also hard to sort out the role of other lifestyle factors such as malnutrition, stress, smoking, other drugs, and socioeconomic status (Majewski, 1981). Low birthweight has been found however, with the daily consumption of as little as two drinks per day (1.0 ozs. absolute alcohol) in early pregnancy (Little, 1977). The complete syndrome is usually associated with maternal consumption of four to five drinks per day or more (2-2.5 ozs. absolute alcohol) (Rosette & Weiner, 1984a).

Prenatal exposure to alcohol is thought to account for approximately 5% of all congenital anomalies (Sokol, Miller, & Reed, 1980). The incidence in the United States is estimated to be approximately 1/750 live births (Streissguth et al., 1980). While FAS occurs in every cultural and socioeconomic group, it varies considerably among subpopulations, being of more concern for communities where there is a high alcohol consumption pattern among women of reproductive age.

*American Indian and Alaska Native Mental Health Research,
3(1), Summer 1989, pp. 16-33*

FAS and American Indians

In 1979, the FAS Project sponsored by the Indian Health Service (IHS) investigated the prevalence of FAS in American Indian populations of the southwest (May, Hymbaugh, Aase, & Samet, 1983). The incidence ranged from 1.3/1000 live births for the Navajo tribe to 10.3/1000 live births for the Southwestern Plains tribes. The variation was attributed to differences in tribal social and cultural patterns. There has been no information on the prevalence of this birth defect in other Indian communities. To date May's work is the only study on the occurrence of FAS in American Indian populations (May et al., 1983; May & Hymbaugh, 1983; in press).

FAS Prevention Activities

Because FAS is a preventable birth defect, considerable effort has been made to warn the public against drinking large amounts of alcohol during pregnancy. Projects have been designed to prevent FAS through patient education, and physicians have been encouraged to screen obstetrical patients for alcohol problems (Sokol & Miller, 1980; Rosette, Weiner, & Edelin, 1983).

Broadly targeted FAS education and prevention efforts have been developed by Rosette, Weiner, and Edelin at Boston City Hospital (1983). Their studies include the development of educational programs as well as evaluation of the effects of these efforts on the outcome of pregnancy.

The FAS Project developed a culturally sensitive training program designed for use within American Indian communities throughout the United States. The goals of this initiative were to increase the awareness of FAS among Indian health workers and for them to provide education to members of their communities.

FAS and Michigan's American Indians

Although very little work has been done to assess the incidence of FAS in Michigan's American Indians, it is a concern for the tribal communities. Current statistics show that alcoholism and disease characteristics from the abuse of alcohol are the cause of many years of potential life lost within Indian communities. A task force report completed in July, 1985, "Meeting the Health Needs of Michigan's Indians," reported that American Indian women in the state are at higher risk for alcohol abuse than their male Indian and non-Indian counterparts. The death rate for Michigan's American Indian males due to cirrhosis of the liver was only slightly above the Michigan white male rate; however, the death rate for Indian females was more than double the rate for non-Indian females.

Accordingly, FAS prevention efforts have been undertaken in the American Indian communities of Michigan. In 1985, one to two Indian health workers from each of the tribal communities attended workshops

conducted by the National Indian FAS Program (May & Hymbaugh, in press).

The present project was designed to investigate the effects of FAS prevention efforts in Michigan's Upper Peninsula. Indian health workers were interviewed regarding their FAS prevention programs. Childbearing Indian women were interviewed regarding their knowledge and attitudes about drinking alcohol during pregnancy. The project was also designed to bring FAS education programs into the communities.

Indian Communities Studied

History of Upper Peninsula Indian Communities

American Indian people living in the Upper Peninsula of Michigan are of the Ojibwa (Chippewa) tribe and the Potawatomi tribe (Trigger, 1978). Originally, bands of Ojibwa hunters, fishermen, and food gatherers lived autonomously on the peninsula. However, treaties restricting Ojibwa lands to reservations were enacted in the 1700s and continued through 1934. The Ojibwa are currently represented by four tribal communities on reservations: the Sault Ste. Marie tribe of Chippewa Indians, the Bay Mills Indian community, and the Keweenaw Bay and Lac Vieux Desert tribes. The Potawatomi Indians living in the Upper Peninsula have descended from a group of people who fled northward from Wisconsin in response to the Relocation Acts of 1850. These Acts forced the majority of Potawatomi to accept reservation lands in Kansas. The Potawatomi Indians of the Upper Peninsula live in the Hannahville Indian Community and reservation.

After a period of rapid acculturation and integration with non-Indian culture, the American Indians in this area recently have been experiencing a period of traditional renewal (Trumper, 1985). While many individuals choose to continue to assimilate with their non-Indian neighbors, others are acquiring an increased awareness of themselves as Indian people. In contrast to the situation during recent decades, when practice of Indian traditions appeared to be a thing of the past, Indian values and cultural practices have experienced a renaissance in many of the communities. During the summer, each community sponsors a pow-wow where traditional ways and values are taught and celebrated. These teachings are incorporated into local substance abuse recovery programs, where they are used as a tool of self-discovery and pride. Following recovery, individuals are more aware of their Indian heritage, a value system that enables them to make informed decisions within the context of a community to which they belong.

Health Care Services for Upper Peninsula Indians

At present, each tribal community has a contract with the IHS to provide health care to eligible Indian people. The health care system varies

between communities, depending on the providers, facilities, and services available in a given community. All contracts are administered through the Kincheloe Indian Health Center in Kinross, which is the base for IHS activity in Michigan. In addition to tribal contracts, the Center provides ambulatory care and a prevention-oriented community health service program. (See Figure 1 for a map indicating the location of tribal communities in Michigan's Upper Peninsula). The reservations vary in size of population from 300 to 5,000 people, with landholdings of 36 to 14,000 acres. See Table 1 for reservation service populations and corresponding landholdings.

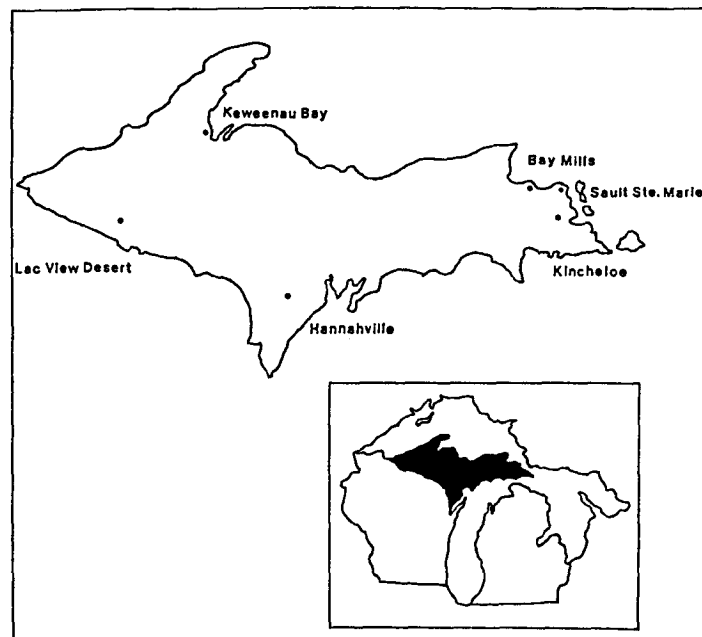


Figure 1: Map of the Upper Peninsula of Michigan Showing Location of Tribal Communities

Table 1
Upper Peninsula Tribal Health Sites
Population and Land Holdings

Federally Funded Tribal Health Sites	1985 Service Population	Reservation Land Holdings (acres)
Sault Ste. Marie	5,180	N.A. ¹
Bay Mills	612	2,000
Keweenaw Bay	1,700	14,000
Lac Vieux Desert	300	36
Hannahville	343	3,408
Kincheloe Indian Health Center ²	N.A.	N.A.

¹ Sugar Island and dispersed housing sites

² Ambulatory care facility and base for Indian Health Service activity in Michigan

Source: Michigan Commission on Indian Affairs and the Michigan Department of Public Health, 1985.

The Sault Ste. Marie Tribe of Chippewa Indians has members distributed over a seven-county area in the eastern Upper Peninsula. A parcel of land on Sugar Island near Sault Ste. Marie has been designated as the reservation. Housing sites are widely dispersed. Outpatient services are provided by community health nurses. Individuals who live near the Kincheloe Indian Health Center use it for health care services; others use contract funds to purchase the services of private practitioners.

The Bay Mills Indian Community is located on Whitefish Bay of Lake Superior in the eastern Upper Peninsula. Health services are provided through the Kincheloe Indian Health Center, a federally funded community health center located on the reservation that offers outpatients medical and dental care to the general public.

The Keweenaw Bay Indian Community lies in the western part of the Upper Peninsula, around the shores of Lake Superior known as Keweenaw Bay in Baraga County. The community provides direct patient care through a facility staffed with a physician, a nurse, and a dentist. In addition, community health services are provided with a community health nurse, a nutritionist, and a mental health social worker. Individuals also use contract health care services to gain access to private practitioners in the area.

The Lac Vieux Desert Tribe of Chippewa Indians occupy two small parcels of land in the far western part of the peninsula. Health care is provided through a contract with IHS. Direct care is provided one-half day per week by the physician from Keweenaw Bay Indian Community. Specialized services are provided by private practitioners in the area.

The Hannahville Indian Community is composed of Potawatomi Indians. The reservation is located in the south central part of the Upper Peninsula, in Menominee County. Health care is provided through a contract administered by Kincheloe IHS. Most individuals seek the services of private practitioners, using contract funds.

Prenatal Care for Indian Women

Pregnant American Indian women in the Upper Peninsula are served by a variety of health care providers. Women living near the Kincheloe clinic are seen at the clinic until the fifth month of their pregnancies, at which point the practitioners who are to assist their deliveries take primary responsibility for their care. Women living in other areas seek private practitioners serving the non-Indian community for prenatal care and delivery. All babies of normal pregnancies are born in local hospitals, while women with high-risk pregnancies are sent to the nearest regional tertiary care hospital for delivery.

To assure adequate prenatal care for the women of their tribe, the community health nurses of the Sault Ste. Marie and Keweenaw Bay communities provide health education during three prenatal visits and one postnatal visit.

In most communities, the individual most aware of all the pregnant women in each community is the coordinator of the local Women, Infants, and Children (WIC) program. This program provides supplemental food coupons for eligible pregnant and nursing women and their children (up to age six). WIC program coordinators indicate that virtually all pregnant women in the Indian communities know about WIC and avail themselves of the program's food coupons. Through periodic interviews and outreach services, the WIC coordinator maintains contact with the childbearing women of her community.

Methods

Data Collection

This study was coordinated through each Indian community's health administrator. Two sets of interviews were performed in each community. First, Indian health workers were interviewed regarding their FAS outreach activities. In the second set of interviews, Indian women were asked questions regarding their knowledge about FAS.

Health Worker Interviews

Indian health workers, Indian and non-Indians employed to serve the Indian community as community health nurses, social workers, educators, nutritionists, WIC program coordinators, substance abuse

workers, and community health representatives were interviewed regarding their specific FAS outreach activities. Each interview lasted approximately one hour. Information was gathered on the amount of FAS training each worker had been given, attitudes they had toward the problem in their community, and on past and present intervention efforts in their communities. At the conclusion of each discussion, plans were defined for the project team to provide FAS education in the community under consideration.

Prospective on New Mother

During the 10 weeks of the project, 29 women were interviewed. Most of the women who were interviewed were asked to participate by Indian health workers. These women were usually well known to the health workers or at least closely associated with the tribal centers. Others were asked to participate during WIC clinics. Each woman interviewed was either pregnant or had delivered an infant within the last year. All of the women were told they would be asked questions about their pregnancies in general, and that their responses would be confidential.

In the interview, women were asked general questions about their prenatal practices. They were asked if they knew about FAS, where they had learned about it, and if their physicians had talked to them about drinking during pregnancy. Each interview lasted approximately 20 minutes. During the interview, women were encouraged to discuss what they believed about FAS. Additional education was provided based on their current level of understanding. Highlights of the FAS information provided during such discussions are included in Table 2.

Table 2
FAS Information Provided to Pregnant Women in the Study

Fetal Alcohol Syndrome

Alcohol syndrome is a birth defect caused when a woman drinks large amounts of alcohol while she is pregnant.

A birth defect is when a baby is born who doesn't look right on the outside or when something doesn't work right on the inside.

Alcohol Syndrome is a common birth defect because a lot of women drink alcohol and do not know that large amounts of it can damage their baby.

How Alcohol Affects the Fetus

Table 2
FAS Information Provided to Pregnant Women in the Study.
(Continued)

A baby develops inside its mother during the entire nine months of a woman's pregnancy. The baby begins as a single cell and develops all the complex parts of a human being.

While the baby develops, the mother's blood provides everything it needs to grow properly, like vitamins and oxygen.

When a woman drinks alcohol it enters her bloodstream. So, when a pregnant woman drinks alcohol it travels in the blood to her baby. This alcohol prevents the cells of the growing fetus to develop normally, and the baby is born with birth defects.

What Babies with Fetal Alcohol Syndrome Look Like

There are three main things that aren't right with Fetal Alcohol Syndrome babies:

- 1) They are very small at birth and remain small throughout their lives. They never catch up with other kids.**
- 2) Their brains do not grow normally and they are mentally retarded.**
- 3) They look different than other children, too. They have very distinctive faces with small, narrow eyes, a large space between their eyes and a small head.**

What You Can Do To Prevent Fetal Alcohol Syndrome

Doctors don't know how much alcohol is going to cause Fetal Alcohol Syndrome. It may be that occasional drinking of large amounts of alcohol will cause problems for the fetus.

The first three months of pregnancy are very important for a baby's development. So, it is important not to drink during those three months. However, if a woman has had alcohol to drink, not knowing she was pregnant, it is still important for her to stop drinking for the rest of her pregnancy. She can still prevent worse fetal effects from occurring.

You can help your friends to prevent FAS by telling them not to drink and by not drinking with them while they are pregnant.

Husbands and fathers can help prevent FAS by helping their wives to not drink alcohol during their pregnancies.

Methodological Issues

Providing Education

One of the primary goals of this project was to contribute to local prevention efforts by providing education. While the findings of this study may help these communities to develop more effective FAS intervention strategies, the direct service component of this project had an immediate and positive impact. The educational services of this project were a vital prerequisite for entry into some of the communities. In all of the communities this information was well received. Educational materials were used from the teaching package developed by Rosette and Weiner (1984b), as well as from the FAS Project (May & Hymbaugh, in press).

Access to Women and Sensitivity of the Issue

The assistance of Indian health workers who knew women in the community and who were willing to facilitate communication with these women was vital to the success of this project. Nonetheless, access to individuals and data was constrained by both the sensitivity of the issue and the lack of a clinical setting. One time the Indian health workers said a woman refused to be interviewed because she had heard the research was about FAS and she was afraid of discussing her drinking behavior during her pregnancy.

A clearer understanding of the severity of drinking during pregnancy would be helpful in determining a community's level of risk for FAS. However, the barriers to obtaining accurate information prevented the systematic collection of such data in the present study.

Self-reported alcohol consumption patterns are rarely accurate. This problem is exacerbated during a woman's pregnancy by factors of timing as well as by the sensitivity of the issue. As Rosette and Weiner found in their study of alcohol consumption among pregnant women, responses to questions about alcohol consumption differed depending on whether the woman was pregnant or postpartum (1984). During the course of the present study, the findings of Weiner and Rosette were strongly confirmed: "During pregnancy, concern for the health of the baby helps the woman to respond honestly. Once the baby is born, fear of censure for past drinking behavior may influence her to deny alcohol use" (Rosette & Weiner, 1984a, p. 109).

In a clinical setting, questions about alcohol consumption are perceived by the client as part of good patient care during pregnancy. However, interviewing women in their homes, the researcher for this project was perceived as an investigator rather than as a health care provider. One case clearly illustrates this problem.

One of the few times the interviewer for this project experienced full candor on the part of a woman was during an interview with a woman who was seven months pregnant and who had requested to be part of the study. She was frightened about the potential effects on the fetus of her drinking practices during the first two months of her pregnancy. She gave detailed information about her exposure to enable a practitioner to accurately evaluate the potential effects. Even so, the outcome was unpredictable. While other women were also asked about their drinking practices before and during pregnancy, none were as forthcoming as this woman. She was told about research done by Weiner and Rosette demonstrating that women who were heavy drinkers during the first trimester were able to prevent the most severe alcohol damage to their infants. Despite this information, and given the inability of current knowledge to provide more precise forecasts of fetal alcohol effects, this woman's concerns were not alleviated. Information alone was not enough to fully and effectively address the tremendous guilt and anxiety that such mothers experience.

Educator Interview Results

Attitudes and Knowledge

Indian health workers who had attended the training workshop given by the National Indian FAS Program (May & Hymbaugh, in press) were interviewed regarding FAS. While most of these individuals responded warmly toward the study, others reacted with subtle, self-protective patterns of defensiveness or quiet distance. Most demonstrated a high level of awareness and concern for FAS in their communities. One individual expressed feelings that Indians were unfairly targeted as being at risk for FAS. All of the individuals were aware of the basic causes and characteristics of FAS, and they are advocates for its prevention. This understanding reflects the training they received from the FAS Program and helped the study to be well received in their communities.

Of the six trainers (i.e., Indian health workers who had attended the training workshop given by the FAS Program) interviewed, five were women and four were American Indian. They had all received a high school education and were employed as Indian health workers for their respective communities.

FAS Prevention Activities

Health workers expressed their concerns about and their desire to perform outreach activities. Interviews indicated that they employed creativity and flexibility in their efforts. Table 3 specifies the educational activities trainers provided in their communities. These activities ranged from poster displays to community workshops. Such workshops attracted participants in some communities but not in others. Barriers to workshop

attendance included lack of transportation and daycare, as well as motivational factors.

Table 3
Educational Activities Identified in Communities and Performed During Current Project

Previous	During Current Project
2 community workshops WIC office posters	3 community workshops 2 WIC program workshops School program Parental education packets

One community's success appeared to be due to both the small size and cohesiveness of the community, as well as to the educator responsible for coordinating the workshop. This woman was a substance abuse worker who was also particularly at ease with women's issues. She had a longstanding, caring commitment to the community. She felt the participants responded to her efforts to warn them about FAS because they knew she cared about them.

This personal relationship with community members is more difficult in some of the larger, geographically dispersed communities. One educator expressed discouragement after her efforts to put on a community workshop drew only a handful of professional people. Nonetheless, she was able to find another way to reach the childbearing women in her community. The community health nurses of her tribe provide prenatal education to pregnant women in the community during three prenatal visits and one postnatal visit. Packets of information were compiled for these visits, including an FAS pamphlet.

Interviews indicated that while health care workers understand basic FAS concepts, many are not aware of new FAS research findings that could be critical in providing information that would enable women to make informed decisions during pregnancy. Educators discussed feeling uncomfortable about discussing substance abuse problems and were unaware of information that would enable them to provide positive and non-judgmental intervention.

Interviews with health care workers anecdotally reinforced knowledge that their communities are at risk for FAS. They often expressed concern for women who they knew were drinking heavily during their pregnancies. They referred to children whose mothers had consumed large amounts of alcohol during their pregnancies and who manifested FAE.

The health care workers were appreciative of the project's goal of providing FAS education. They were cooperative and helpful in planning programs, as well as in encouraging women to participate. The project

sponsored community-wide workshops, school and senior citizen programs, as well as one-on-one counseling at WIC clinics.

Indian Women Survey Results

Characteristics of the Population Studied

The women interviewed ranged in age from 15 to 33 years with a mean age of 22 years. Forty-eight percent were pregnant at the time of the interview and 52% had delivered infants within the last year. Seventy-one percent had sought medical care during the first trimester of their pregnancies and 8% during the third trimester. Twenty-four percent had less than 10 years of formal education and 59% had a high school education or beyond. Forty-one percent saw themselves as being traditional Indians. Ninety-six percent participated in the WIC program. Sixty-five percent were living with the father of the baby, 17% with their parents, and 17% alone or with their children.

Level of Knowledge About FAS

The findings of this study regarding Indian women's knowledge about FAS are presented in Table 4. Highlights of these findings are presented below.

Table 4
Sources of FAS Information

Sources	No. of women
WIC Program	6
Pamphlets and Posters	4
Physician's Assistant	3
Physician	3
Substance Abuse Counselor	3
Community Health Nurse	2
Community Health Representative	1
School	2
Total no. of women who knew about FAS	24
% of women who knew about FAS	83%
% of women who learned about FAS from their physicians	10%
% of women who sought medical care during their 1st trimester	71%
% of women who were pregnant at interview	48%
% of women who saw themselves as traditional	41%
% of women with a H.S. diploma	59%

Eighty-three percent of the 29 women interviewed had heard of FAS. Of the five women who replied that they had not heard of FAS before, three began prenatal care during the fifth month of their pregnancies and one individual said she never went in for prenatal care. Two of these women considered themselves as traditional; this was her first pregnancy for one.

When asked what they knew about FAS, 50% of the 29 women interviewed were able to state one or more specific characteristics. Other individuals made general statements about FAS being a birth defect, or that drinking during pregnancy was bad for the baby.

When asked how much alcohol was safe for a woman to drink while pregnant 25% of the 29 women said none at all and the remainder said they didn't know.

Sources of FAS Information

Sources of information about FAS are as varied as the health care providers who work with pregnant women. Answers reflected the effectiveness of school programs in targeting teenagers, and of community health nurses who deliver prenatal educational packets. Women who had been treated for substance abuse recalled the information from counselors. Education coordinated by a WIC coordinator, whose office was wallpapered with FAS posters and pamphlets, showed a major impact in her community. Other women, unable to pinpoint an individual source, mentioned seeing information on television, posters, or pamphlets.

Only 10% of the women interviewed said they first learned about FAS from their physicians. Of the 29 women interviewed, 39% reported that their doctors mentioned alcohol use during pregnancy.

Alcohol Histories as Part of Prenatal Care

As previously noted, 39% or 11 of the 29 women, said their physicians discussed drinking during pregnancy with them. When probed about this, women said their physicians asked them if they drank alcohol. When asked what happened after that, most women said they answered "no", and the issue was dropped.

Discussion And Recommendations

The results of this survey confirm that the educational efforts of a variety of health care workers in each community have been successful. Through collaborative efforts, information about the effects of drinking alcohol during pregnancy is reaching the American Indian women of Michigan's Upper Peninsula. However, because access to many of the women was made possible by Indian health workers, many women interviewed were well-connected with the tribal health center. Women who were

more socially isolated, and therefore more likely to be at risk for alcohol abuse were not interviewed. Similarly, they are less likely to be reached by FAS prevention efforts and by supportive individuals who can assist them in making wise decisions about drinking during pregnancy.

Interviews with educators and women in the community indicate shortcomings in the identification and treatment of pregnant women with drinking problems. Health care workers and women in the community are aware of individuals who are drinking, but at this time there appear to be no resources for intervention. Women who are at greatest risk for FAS are those who are more socially isolated and consume substantial amounts of alcohol. These women will require more than education to be able to make wise decisions during their pregnancies.

Pittman (1980) has shown that few alcoholics change their drinking patterns in response to public health campaigns. Likewise, Minor and Van Dort (1982) have reported that 20% of informed women considered themselves as at risk for infants with alcohol related birth defects. Streissguth, Darby, Marr, Smith, and Martin (1983) compared drinking and smoking habits of pregnant women over a six-year period, from 1974/75 to 1980/81. This research showed that while the proportion of women who drink alcohol during pregnancy had declined, the proportion of women who reported heavier drinking showed no decrease. To effectively address the problem of FAS, aggressive outreach efforts should be undertaken to provide information and services to these women.

Given the pervasive nature of alcohol-related abuse and its attendant problems in these communities, it is important that a multi-faceted strategy be employed to prevent FAS. Absent other information, it should be assumed that all women are at risk. Because health care services for pregnant women are fragmented, involving both Indian health care workers and outside practitioners, intervention becomes the responsibility of every person who works with these women. In addition to the physician, this includes the WIC coordinator, community health nurses, nutritionists, social workers, substance abuse workers, and community health representatives. Active participation problems also point to the need to provide programs to groups of individuals who may not be of childbearing age, but who may be able to influence pregnant women in the community. These groups include senior citizens, alcohol awareness groups, tribal councils, men's groups and schools. In these ways Indian men can be made aware of the supportive role they can play in helping women to stop drinking during pregnancy.

Providers should be updated regularly on knowledge about alcohol-related birth defects. This will help them provide consistent, sound, and realistic information about drinking alcohol during pregnancy, enabling the women they reach to make informed decisions. These individuals need to be trained in counseling techniques so that women who are at risk will be able to hear the information and will be motivated to seek additional resources for assistance if they are having problems with alcohol.

As Rosette and Weiner have pointed out in regard to treatment strategies, attitudes of the intervening health professionals are critical in affecting change (1984). Their findings indicate the importance of timing and positive education statements in prevention, and of direct, non-judgmental alcohol screening during prenatal evaluations. Most importantly, their work confirms the studies by Swedish researchers (Olegard et al., 1979) which show that women identified early in pregnancy as heavy alcohol users who were able to stop drinking altogether by the last trimester were able to prevent the worst FAS effects.

Counseling women about drinking during pregnancy should be realistic and consistent. The amount of alcohol that is safe to drink during pregnancy is controversial; however, it appears that < 1.0 oz. of absolute alcohol per day is probably not harmful to a fetus (Rosette & Weiner, 1984a). If women are led to believe that even a small amount of alcohol during pregnancy may cause harm to a baby, they may be saddled with an unfounded sense of responsibility for the outcome of the pregnancy. By clearly emphasizing the way the amount of alcohol consumed over time determines blood alcohol levels and consequently, the amount of alcohol being delivered to the fetus, women can make their own decisions about the amount of alcohol that is safe to drink during pregnancy. Knowledge about the causes and prevention of alcohol-related birth defects is increasing, and should be more rapidly disseminated to health care professionals.

Studies have shown that individuals who are given a specific resource for assistance with substance abuse problems are more likely to follow through with a referral than those who are given a more general recommendation. In small, rural communities where information channels are both informal and complex, a specific individual needs to be identified as a resource for referral. As one community in this study demonstrated, it is important that this person be a woman who is trusted and committed to resolving the needs of women in her community, aware of current FAS facts, and able to counsel people who are experiencing alcohol problems.

Physicians need to be aware of community concerns and resources for FAS referral. As primary care providers, they have the ability to act as advocates for FAS prevention. For example, they need to be more aggressive about screening women at risk for FAS. Work by Rosette and Weiner (1984a) indicates that assuming that women drink alcohol and directly asking them about their drinking practices elicits much more information than asking them, "Do you drink?" In addition, by providing education (explaining the tangible risks alcohol to the fetus), physicians can enable the woman to make a decision about drinking that is based on solid information rather than the subtle hints of the physician. Clearly, physicians should be encouraged to discuss drinking behavior, and to make drinking histories a part of every prenatal intake interview.

The present research strongly supports the recommendation that research be performed to define the incidence of FAS in the Upper Peninsula. At present, informal and anecdotal evidence suggests that there are

FAS children in these communities. Furthermore, the 1985 Michigan Indian Health Task force has reported alcoholism to be the number one health problem affecting Indian communities. A FAS incidence study similar to that by May et al. (1983) in the southwest would help to identify and track FAS individuals, as well as to provide assistance in their treatment. This initiative would also require the assistance and training of local practitioners, helping them to be more responsive to the needs of the community. To perform such a study, health care professionals and community members in each community must make common cause with one another to advocate for resources at the local, state, and national levels. The information provided by this study would be another important element in an effective, multi-faceted strategy to address the problem of FAS in Michigan's Indian population.

Long-range recommendations for preventing FAS and improving the quality of care for Indian women in these communities can be drawn from traditional sources. Culturally, Indian women come from a tradition of self-sufficiency and sovereignty in their health care and in the birth of their children. They have been taught at puberty to care for themselves and their children, both physically and spiritually (Landes, 1969; Nietzhammer, 1977). The Ojibwa women interviewed in this study speak of themselves as leaders, as bearing responsibility for the preservation of their families and their communities. From this strength and the traditional ways can be drawn the basis for the development of an effective Indian women's health program. The idea of translating traditional concepts into a practical tool for organizing women's health care is embodied in the Women's Dance Health Program founded by Katsi Cook in Minneapolis (Cook, 1981), and has been developed nationally as the Circle of Life. These organizations develop and implement women's health projects that enable women to work toward improving their own health care. Nearly one-half of the women interviewed in this survey considered themselves traditional, making such an effort a worthwhile undertaking in the Upper Peninsula.

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Note: This study was made possible by the Medical Perspectives Fellowship Program which is supported by the Smith Kline Beckman Corporation and administered by the National Fund for Medical Education. I gratefully acknowledge Michigan State University's College of Human Medicine and the Upper Peninsula Medical Education Program which encouraged and supported the project. The people and resources of the U.S. Indian Health Service were also critical to the project's success, most notably, Char Hewitt and each tribe's Indian health workers. Neal Johnson's friendship and participation has been vital from the project's inception through the final draft.

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