A RESPONSIBLE ACT
PUBLIC HEALTH NOTICE

AN ACT
"RELATING TO ALCOHOL RELATED BIRTH DEFECTS"

(FAE AND FAS)

L.D. 2225

NATIONAL COUNCIL ON ALCOHOLISM IN MAINE, INC.
PUBLIC POLICY COMMISSION

MARCH 1984

AN ACT RELATING TO ALCOHOL-RELATED BIRTH DEFECTS

OVERVIEW

Birth defects as the result of alcohol consumption during pregnancy are known as Fetal Alcohol Syndrome (FAS) or Alcohol Related Birth Defects (ARBD). FAS is the second most frequent birth defect in the U.S. Although the physical and mental damage is irreversible, FAS is totally preventable. If a woman does not drink alcohol while she is pregnant, she runs no risk of having a baby with this birth defect.

There is a low awareness level in the general public about the specifics of FAS. Exactly what is the damage? How much drinking causes it? Should a pregnant woman abstain or can she safely drink in moderation?

Most people are aware of the link between alcohol and birth defects. A recent cross-country survey, though, showed that pregnant women and their husbands consistently expressed the erroneous belief that FAS is reversible, that it meant giving birth to a "drunk" baby who could "dry out."

In addition, there is an overwhelming lack of knowledge about recent research showing that even moderate drinking (two drinks or less a day) may lead to hyperactivity, low birth weight, and neurological damage in the child, symptoms know as Fetal Alcohol Effects (FAE).

Prevention of FAS and FAE depends on giving accurate information about the risks of drinking alcohol during pregnancy to women who are, or are contemplating becoming pregnant.

Ref. 1

PREVENTION IS RESPONSIBLE

The burden of the control of this avoidable, irreversible and devastating syndrome is in prevention. The key to this control lies not only with the mother but with the family and the community in understanding the risk of alcohol for the newborn child. The physician has a responsibility in determining risk facts, providing information and counseling both before and during pregnancy, and in recognizing the infant with fetal alcohol syndrome.

Ref. 2

FETAL ALCOHOL EFFECTS

What is it?

Consumption of even moderate amounts of alcohol (2 drinks a day) during pregnancy may produce birth defects.

The birth defects range from severe mental retardation and physical defects noticeable at birth to mild defects (e.g. hyperactivity) that are not noticed until the child reaches school.

A Maine Public Health Problem?

In Maine, it is estimated that as many as 1,400 children are born each year with defects due to maternal consumption of alcohol during pregnancy.

Seventeen (17) of these newborns will have severe physical/intellectual problems that will require lifetime care such as that provided in nursing homes.

Damage to the unborn by alcohol is the largest known health hazard by a noxious agent that is **100% preventable.**

Why alcohol?

Ten (10) years of **human** research shows that even moderate (2 drinks a day) levels of alcohol (including social drinking) may result in birth defects.

Alcohol consumption during pregnancy is the third leading cause (following genetic issues and birthing complications) of mental retardation and is 100% preventable.

There is **no known safe level** of alcohol consumption during pregnancy, the negative results are 100% preventable.

Why now?

The number of women drinking has increased significantly and is considered equal to the number of men drinking.

The number of women of child-bearing age that drink has increased.

The **human** research has shown a direct cause-effect relationship between alcohol consumption during pregnancy and birth defects.

Ref. 3

Cost Effective?

The proposed legislation is estimated to cost under $4,000 for the initial year.

The yearly cost of caring for one severly handicapped child in nursing home or Intermediate Care Facility for the Retarded is from $32,000-$45,000.

If one severe case is prevented, we would save $28,000-$41,000 per year, or average life expectancy is 60 years ($1,680,000-$2,460,000) for (1) person.

Ref. 5

Why at Place of Sale?

Information at the point of purchase increases knowledge necessary to make a **responsible choice.**

The information is accessible to all individuals wishing to purchase alcohol.

Who is concerned?

A Congressional resolution, HF Res. 324, signed by President Reagan declared the week of January 15, 1984, **National Fetal Alcohol Syndrome Awareness Week.** The resolution puts Congress on record as supporting abstinence from alcohol consumption as the method of addressing this preventable public health issue.

The U.S. Surgeon General advised (1981) women who are pregnant or considering pregnancy, not to drink alcoholic beverages **and** to be aware of the alcohol content of food.

The American Medical Association (1982) has officially adopted a policy of recommending that women abstain from drinking alcohol during pregnancy.

All of these actions emphasize the need to inform the public to enhance their capacity to make a responsible choice.

How Extensive is the Problem Nationally?

Fetal Alcohol Syndrome (FAS) occurs once in every 650 live births in the United States today. FAS is a cluster of effects seen in infants of women who drink chronically during pregnancy. Fetal Alcohol Effects (FAE) occurs once in every 250 to 350 live births. FAE refers to any abnormality seen in a child as a result of some maternal alcohol consumption during pregnancy. FAE children do not show the full spectrum of abnormalities associated with FAS.

What Do FAS and FAE Cost?

In the United States in 1980, an estimated 82 infants were born each day with fetal alcohol effects, and another 30 were lost in alcohol-related spontaneous abortions. The cost of caring for the survivors during their lifetime will be over two and one half billion dollars. These tragic estimates will be repeated each year. The economic and social costs of excessive drinking during pregnancy are high indeed.

Alcohol consumption during pregnancy poses a significant risk for the unborn child, with consequences including increased spontaneous abortion, decreased birth weight, major and minor birth defects, and mental retardation.

Some of these effects occur in children whose mothers during pregnancy consumed alcohol in amounts consistent with a diagnosis of alcoholism. Some occur in children whose mothers drink moderately. In the United States, the incidence of fetal alcohol syndrome-a specific cluster of severe and irreversible abnormalities-is **conservatively** estimated at 1,800 to 2,400 births a year. The incidence of a broad range of other adverse alcohol-related outcomes is as much as **20 times as high,** affecting an estimated 36,000 pregnancies each year. That is equal to approximately one out of every 100 live births in the United States with a total societal cost of over 1.5 billion per year, and all FAE and FAS defects are completely **preventable.**

Ref. 4

Federal Action to Combat the Problem

It is clear from historical references fetal alcohol damage has been with us since alcohol has been available. In the U.S., Fetal Alcohol Syndrome (FAS) was documented in 1973. Over the past 10 years, the research literature has increased rapidly with evidence of additional alcohol-related birth defects associated with moderate alcohol consumption.

A report prepared by U.S. Departments of Health and Human Services and Treasury (1980), and submitted to the President and Congress, led the Surgeon General to advise the following:

Surgeon General's Advisory on Alcohol and Pregnancy*

The Surgeon General advises women who are pregnant (or considering pregnancy) not to drink alcoholic beverages and to be aware of the alcoholic content of foods and drugs.

A recent report to the President and Congress[1] summarizes current scientific knowledge about health hazards associated with alcohol consumption, including those during pregnancy. The report concludes that alcohol consumption during pregnancy, especially in the early months, can harm the fetus.

Among the findings of the report are the following:

- Significantly decreased birth weight has been observed among the children of some women who average only 1 ounce of absolute alcohol (two standard drinks) per day during pregnancy.[2]
- Sizeable and significant increases in spontaneous abortions have been observed at reported alcohol consumption levels as low as 1 ounce of absolute alcohol twice a week.[3,4]
- A woman who consumes alcohol at amounts consistent with a diagnosis of alcoholism risks bearing a child with a specific cluster of severe physical and mental defects known as the fetal alcohol syndrome (FAS) (See September-October 1977 *Drug Bulletin*). This syndrome of birth defects is frequently associated with mental retardation, and is also characterized by central nervous system disorders, growth deficiencies, a specific cluster of facial abnormalities, and other malformations, particularly skeletal, urogenital, and cardiac. Many of these characteristics are individually subtle but are readily apparent to trained dysmorphologists.
- Even if she does not bear a child with full FAS, a woman who drinks heavily is more likely to bear a child with one or more of the birth defects included in the syndrome. Microcephaly, which is associated with mental impairment, is one of the more common of these defects.

The reported effects on pregnancy outcome appear to be independent of potentially confounding variables including nutrition and smoking.

In addition, it has been demonstrated that alcohol readily enters breast milk and thus is transmitted to the nursing infant. Heavy alcohol consumption is known to decrease the mother's milk.

Research to establish the mechanisms by which alcohol consumption affects fetal and neonatal growth and development is underway.

Health professionals are urged to inquire routinely about alcohol consumption by patients who are pregnant or considering pregnancy. This information should be included in their medical records.

Each patient should be told about the risk of alcohol consumption during pregnancy and advised not to drink alcoholic beverages and to be aware of the alcoholic content of foods and drugs.

*Published in the *FDA Drug Bulletin*, Vol. 11(2), July 1981.

[1] *Report to the President and Congress on Health Hazards Associated with Alcohol and Methods to Inform the General Public of Their Hazards.* U.S. Department of the Treasury and U.S. Department of Health and Human Services, November 1980. Available for $4.25 from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

[2] Little R.E. Moderate alcohol use during pregnancy and decreased infant birth rate. *Am J Public Health* 67:1154, 1977.

[3] Kline, J; Shrout, P.; Stein, Z.; Susser, M.; and Warburton, D. Drinking during pregnancy and spontaneous abortion. *Lancet* 2(8187):176, 1980.

[4] Harlap, S., and Shiono, P. H. Alcohol, smoking and incidence of spontaneous abortions in first and second trimester. *Lancet* 2(8187):173, 1980.

[5] Sokol, R.J., and Miller, S.I. Identifying the alcohol abusing obstetric/gynecologic patient: A practical approach. *Alcohol Health and Research World* 4:36-40, 1980. Available as document RPO 296 from NCALI, P.O. Box 2345, Rockville, MD 20852.

[6] *Alcohol and Your Unborn Baby.* Pub. No. PH-90. Available from NIAAA, 5600 Fishers Lane, Rockville, MD 20857.

On November 17, 1983 the United States Senate passed the following Joint Resolution.

II

Calendar No. 598

98TH CONGRESS
1ST SESSION

H. J. RES. 324

IN THE SENATE OF THE UNITED STATES

NOVEMBER 17 (legislative day, NOVEMBER 14), 1983
Received; read twice and placed on the calendar

JOINT RESOLUTION

To designate the week beginning January 15, 1984, as "National Fetal Alcohol Syndrome Awareness Week".

Whereas fetal alcohol syndrome is one of the three major causes of birth defects and accompanying mental retardation in the United States;

Whereas fetal alcohol syndrome can result in such serious health problems as deficiencies in prenatal and postnatal growth that are associated with mental retardation, developmental disabilities that may cause an infant to experience delays in learning to walk and speak, and heart defects, including a hole between the pumping chambers of the heart;

Whereas, in cases in which fetal alcohol syndrome is avoided, infants may still experience fetal alcohol effects, a series of poorly defined health problems that include increased irritability during the newborn period and hyperactivity;

Whereas the discovery of fetal alcohol syndrome as a major health problem is a recent occurrence, and many questions regarding the illness remain unanswered;

Whereas there has never been an infant born with fetal alcohol syndrome whose mother did not consume alcohol during pregnancy;

Whereas fetal alcohol syndrome can be prevented if pregnant women and women considering pregnancy abstain from alcohol consumption; and

Whereas the Surgeon General of the Public Health Service has issued an advisory stating that pregnant women and women considering pregnancy should not consume alcohol: Now, therefore, be it

Resolved by the Senate and House of Representatives of the United States of America in Congress assembled, That the week beginning January 15, 1984, hereby is designated "National Fetal Alcohol Syndrome Awareness Week", and the President of the United States is authorized and requested to issue a proclamation calling upon the people of the United States to observe such week with appropriate activities.

Passed the House of Representatives November 17, 1983.

Attest: BENJAMIN J. GUTHRIE,

Clerk.

NEW YORK CITY

Bill passed—November 15, 1983—Mayor Koch signed Bill into law December, 8, 1983—signs posted March 8, 1984 in liquor stores, bars and restaurants.

WARNING

DRINKING ALCOHOLIC BEVERAGES DURING PREGNANCY CAN CAUSE BIRTH DEFECTS

NEW YORK CITY DEPARTMENT OF HEALTH
THE CITY COUNCIL Local Law 63

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What has been done in Maine to combat FAS and FAE?

1. HSDI PROJECT

In September 1981, the Department of Mental Health and Mental Retardation awarded a contract to the Human Services Development Institute to conduct an extensive literature search regarding the effects of alcohol consumption during pregnancy. This literature search done by Dr. Albert Anderson encompasses contacting all 50 states, as well as doing a computer search of over 1200 articles describing the existing medical, social emotional issues/research as well as the prevention programs currently being conducted in various states. The results of this study have been published by the University of Southern Maine, copies of the paper are available through the Department of Mental Health and Mental Retardation. Dr. Anderson's research report has been included in this booklet with permission.

Ref. 3

2. FETAL ALCOHOL EFFECTS PROJECT

The Fetal Alcohol Effects Project of the Eastern Regional Council on Alcohol and Drug Abuse, Inc. (ERCADA) is a pilot effort funded by the Department of Mental Health and Mental Retardation (DMH&MR). The theme of the project is "A Pregnant Woman Never Drinks Alone" and the objective is to promote alcohol/related birth defects information/educational materials to health care providers and interested persons. The Project staff are utilizing several strategies to disseminate alcohol related birth defects data to appropriate targeted populations. All Projects efforts are monitored through ERCADA's citizen board and reviewed quarterly by the DMHMR's Fetal Alcohol Effects Advisory Committee. The grant period for this effort is September 1, 1983 to June 30, 1984.

3. Cooperative project between the New England Dental Society and National Council on Alcoholism in Maine.

At each of their last 3 Annual Dental Clinics at Forsythe Dental Clinic in Boston, Earle R. Loomer, Jr., Executive Director of NCA/Maine has made a major presentation to the assembled Dentists. Many of whom now provide literature and discuss FAS and FAE with their pregnant patients throughout Maine and other New England States.

4. Efforts by Substance Abuse Treatment Programs

Patients in Maine's **Substance Abuse Treatment** Programs receive education about FAS and FAE.

5. Efforts by Voluntary Organizations

The Association of Regional Council's on Alcoholism and the National Council on Alcoholism in Maine, Inc. are active in the dissemination of FAS and FAE literature throughout the State.

6. The State Clearinghouse provides information and literature on FAS and FAE.

7. The Medical Commission of the National Council on Alcoholism in Maine encourages "peer" doctor groups to promote FAS and FAE awareness.

PROPOSED SIGN
SHOWING ACTUAL
LETTERING SIZE

WARNING
DRINKING ALCOHOLIC BEVERAGES DURING PREGNANCY CAN CAUSE BIRTH DEFECTS

PROPOSED HOT LINE TELEPHONE #

REFERENCES

1. California Urban Indian Health Council, Oakland, California 94616
2. Willis F. Stanage, M.D.; John B. Gregg, M.D.; Lawrence J. Messa Office of Medical Services South Dakota Department of Health (South Dakota Journal of Medicine Oct. 83)
3. Fetal Alcohol Syndrome/Effects-A Maine Problem, Albert Anderson, Ph.D.
4. Dr. Edward Brandt Jr. Assistant Secretary for Health for the Dept. of Health and Human Services.
5. New York State Governors Task Force on FAS-Sheila Blume, M.D. 1979.

Published by
The National Council on Alcoholism in Maine, Inc.
Public Policy Commission

FETAL ALCOHOL SYNDROME/EFFECTS

A Maine Problem

Maine Department of Mental Health and Mental Retardation

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1. The Nature and Extent of the Problem

The Prenatal Effects of Alcohol

Since Jones and Smith (1973) brought Fetal Alcohol Syndrome (FAS) to the attention of the public and the scientific world, over 1,000 studies of the prenatal effects of alcohol have appeared in the clinical and research literature. Without question, alcohol may produce offspring deficits ranging from the cluster of severe physical and intellectual anomolies associated with classical FAS to more subtle (but just as devastating) behavioral and developmental deficits (FAE) which may not be accompanied by observable physical anomolies (Abel, 1980; Abel, 1981).

A report[1] prepared by the U.S. Departments of Health and Human Services and Treasury (1980), and submitted to the President and Congress, led the Surgeon General to advise:

> "...women who are pregnant, or who are considering pregnancy, not to drink alcoholic beverages and to be aware of the alcoholic content of food and drugs." (FDA Drug Bulletin, July, 1981)

Although "safe" levels of alcohol consumption have not been determined, the American Medical Association has officially adopted a policy of recommending that women abstain from drinking alcohol during pregnancy (Robe, 1982). Hansen et al (1978) suggests that the consumption of 1-2 oz. of absolute alcohol (approximately 2-4 drinks) a day throughout the pregnancy results in a risk approaching 10% that the fetus will show the more noticable physical characteristics of FAS. Lower levels of alcohol intake that do not produce the observable physical deficits, may produce behavioral deficits (Thadano, 1981). Shaywitz et al (1980) and Majeloski (1981) have suggested a continuum of the negative effects of alcohol on the central nervous system. These findings are consistent with those of earlier studies concerning the effects of maternal drug intake, stressors, etc. on the behavior and morphology of the offspring (Anderson, 1968; Barry and Poswille, 1975; Montagu, 1962).

The focus upon the pregnant female alcoholic may cloud the greater problem associated with the social or moderate drinker. In addition to an increase in the total number of females drinking (Bowker, 1977), a study of middle class

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1. U.S. Departments of Health and Human Services and Treasury Health hazzards associated with alcohol and methods to inform the general public. U.S. Government, November, 1980.

females revealed that 2% consumed about 2 drinks per day during pregnancy (Little et al, 1976) which results in a risk approaching 10% that the fetus will show the more noticable physical characteristics of FAS (Hanson et al, 1978). Streissguth et al (1980) suggests that infants with milder developmental and behavioral deficits are born to social drinkers.

In addition to drinking levels, drinking habits prior to (Herman et al, 1980) and during critical periods of pregnancy (Abel 1981; Rosett et al, 1981; Olegard et al, 1979) are important in terms of offspring deficits. The mother's ability to metabolize the alcohol (Majowski, 1981) as well as the grossly abnormal sperm of the alcoholic male (Lester et al, 1977; Anderson et al, 1978) may be contributing factors. Asse (1981), in a study of Native Americans, suggests the need to consider cultural influences, fertility, patterns of alcohol consumption and abuse, and dietary and metabolic differences.

Overall, the literature suggests that for some pregnant females, there may be no safe level of alcohol consumption, especially as it relates to more subtle behavioral/developmental deficits of the offspring. Although the child of an alcoholic female is at higher risk, the number of children with deficits born to the social drinker is potentially much higher.

Estimated Numbers of Children with Deficits Due to Maternal Alcoholic Consumption During Pregnancy

Abel (1981) states that FAS is relatively rare and observed only in children born to alcoholic women. Within the female alcoholic population, it is estimated that per 1,000 live births, between 24 and 29 offsprings will have FAS while between 78 and 690 will have one or more behavioral/physical deficits (not necessarily the classical FAS) (Ouellette et al, 1977; Sokel et al, 1980; Hanson et al, 1978). For the general population, the incidents of FAS and FAE combined are estimated to be between 1.7 and 90.1 per 1000 live births (Ouellette et al, 1977; Sokol et al, 1980).

Utilizing the above estimates, the Maine birth rate (Maine Department of Human Services, 1979) and the estimated number of female alcoholics and alcohol abusers in Maine (Maine State Office of Alcohol and Drug Abuse Prevention, 1973), the following estimates of FAS and FAE can be made for Maine

1. Female Alcoholics/Alcohol Abusers: Assuming a birth rate equal to the general population[2], it is estimated that this population would give birth to approximately 600 children each year. This would include:

   a. FAS children: between 14 and 17 FAS offspring

   b. FAS AND FAE children: between 46.8 and 414 offspring would have one or more deficits associated with alcohol intake during pregnancy.

2. General Population: Based upon a birth rate of 16,335 per year (1979), between 27.7 and 1,467 children will be born each year with one or more deficits (including FAS) associated with alcohol consumed during pregnancy.

Although the estimates are inconsistent, the incidents of fetal damage could be much higher due to our failure to identify, or associate with maternal drinking, many of the less observable deficits (Abel, 1980; Abel, 1981). Further as stated by Olegard et al (1979), "damage to the fetus by alcohol is now the largest known health hazzard by a noxious agent that is preventable."

Prevention/Intervention - Training/Education

The issues of prevention/intervention are as complex as the issues related to alcohol consumption during pregnancy.

Although studies of the female alcoholic show that reduced alcohol consumption during the third trimester has been associated with improved neonatal outcome (Rosette, et al, 1981) and sobriety early in pregnancy with improved intrauterine growth (Olegard et al, 1979), sobriety early in pregnancy did not protect the fetus from functional brain damage (Olegard, et al, 1979). Further, chronic alcoholic females may repeat pregnancies which result in infants whith FAS (Pierog, et al, 1979), with each succeeding child showing a greater negative impact of the maternal alcohol consumption (Majewski, 1981). For this population, intervention during pregnancy may be too late to prevent permanent damage to the fetus.

The literature suggests various types of intervention techniques including supportive counseling focused upon the reduction of alcohol use and integrated with regular prenatal care (Rosette, et al, 1981), referral to specialized treatment programs for those who don't respond to counseling as part of prenatal care (Rosette et al, 1981), educating

2. The research literature shows a lower live birth rate for female alcoholics.

the patient and psychosocial intervention (Wright, 1981) public education (Little, 1981) and the training of all health care professionals (including social workers, etc.) (Little, 1981; Sokol, 1981; Rosette, et al, 1981). The recommended prevention approaches include family planning to avoid future pregnancies (Pierog et al, 1979) and the question of terminating the pregnancy of the chronic alcoholic who does not avoid pregnancy until weaned of alcohol (Byers et al, 1981).

The above approaches/recommendations are understandable if one considers the focus of the studies: The pregnant alcoholic. However, the literature suggests that prevention approaches, as they relate to the non alcoholic/abuser may be less developed and systematized.

Although there are a number of public service announcement campaigns, brochures, and efforts by professional groups (e.g. the A.M.A.), our computer search of the 1976-82 literature did not reveal a comprehensive prevention[3] training/education program as it relates to the potential user. Preliminary and very limited discussions, suggest that at the high school and college level, the effects of alcohol use during pregnancy are at best discussed as a side issue during program/courses. Prevention education/training during these critical ages and when the population is accessible, may be more effective in terms of prevention and cost.

Although the literature emphasizes the importance of the collective and individual roles of the physician, educator, public health nurse, social worker, etc., their roles tend to surface post-conception and with the female alcoholic rather than as a routine prevention approach. As suggested in the literature, a systematic prevention approach, integrated with the services of these professionals, may be far more effective.

Public education may present a number of unique problems. How does one educate a public to the dangers of socially accepted and reinforced "moderate" drinking patterns? How does one emphasize a "safe level" of zero, based upon conflicting research results and the lack of hard evidence that minimal drinking during pregnancy harms the fetus? Robe (1982) emphasizes that these conflicts as well as the lack of positive proof, would make it difficult to conduct a public education campaign which emphasizes a zero safe level.

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3. New York State has an extensive program related to alcohol abuse and pregnancy. Materials have been developed for use with/by consumers, physicians, and health practioners.

Given the findings of our preliminary literature search, it appears that in order to reduce/eliminate the negative effects of alcohol consumption during pregnancy, a comprehensive and integrated education/training/information approach may be required. The approach must consider prevention and intervention, critical periods, accessibility of potential mothers and fathers, and the roles and responsibilities of practitioners. Further, one must also consider the involvement of groups that may not have been traditionally included in the prevention/intervention programs, e.g. family planning.

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