

FETAL ALCOHOL SYNDROME: THE ORIGINS OF A MORAL PANIC

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Abstract — Since its discovery almost 30 years ago, the fetal alcohol syndrome (FAS) has been characterized in the USA, as a major threat to public health. In part because FAS resonated with broader social concerns in the 1970s and 1980s about alcohol's deleterious effect on American society and about a perceived increase in child abuse and neglect, it quickly achieved prominence as a social problem. In this paper, we demonstrate that, as concern about this social problem escalated beyond the level warranted by the existing evidence, FAS took on the status of a moral panic. Through examples taken from both the biomedical literature and the media about drinking during pregnancy, we illustrate the evolution of this development, and we describe its implications, particularly how it has contributed to a rapid public policy response.

INTRODUCTION

Fetal alcohol syndrome (FAS) is a pattern of anomalies occurring in children born to alcoholic women (Jones and Smith, 1973). The main features of this pattern are pre and/or postnatal growth retardation, characteristic facial abnormalities, and central nervous system dysfunction, including mental retardation (Stratton *et al.*, 1996). Despite the pervasiveness of alcohol and drunkenness in human history (Abel, 1997), FAS went largely unrecognized until 1973, when it was characterized as a 'tragic disorder' by Jones and Smith, the Seattle physicians who discovered it (Jones and Smith, 1973). By the 1990s, FAS had been transformed in the United States from an unrecognized condition to a moral panic characterized as a 'major public health concern' (e.g. Stratton *et al.*, 1996) and a 'national health priority' (Egeland *et al.*, 1998). In this paper, we trace this evolution, paying special attention to the ways in which this moral panic has inflated fear and anxiety about the syndrome beyond levels warranted by evidence of its prevalence or impact. To acknowledge that the current level of concern about FAS is exaggerated is not to suggest that the syndrome does not exist. One of us (E.L.A.) has spent his entire professional career researching and writing about FAS and continues to be actively engaged in its prevention.

SOCIAL PROBLEMS

Any activity people engage in is subject to someone's opprobrium. Activities can rise to the level of 'social problems' when someone or some group attributes harms or dangers to those activities, calls upon governmental powers to put an end to those harms, and is able to convince others of that view. The likelihood of this occurring increases when the activity that is identified as a problem resonates with underlying societal concerns and anxieties and has endorsement by experts who give legitimacy to such claims (Blumer, 1971;

Stone, 1989). Such legitimacy has the effect of attracting media attention which in turn can attract further support from the public and policy makers (Gerbner and Gross, 1976; Best, 1990).

In the USA alcohol has been a regularly targeted 'social problem' since the beginning of the nineteenth century. During the colonial era when per capita alcohol consumption was four times higher than at present and drunkenness was commonplace (Gusfield, 1963; Levine, 1978, 1983), alcohol was hailed by Puritan clerics such as Cotton Mather as 'the Good Creature of God' (Levine, 1983). Two centuries later, the 'Good Creature' had become symbolic of deep rifts in American society and was rechristened 'demon rum'. The first anti-drinking reform movement occurred in the 1830s–1850s when the poverty and disease of Irish immigrants was attributed to their liquor consumption. The next occurred in the 1880s–1910s, when problems of nascent industrialization such as poverty, the disintegration of family life, rising crime, and mental illness, were attributed to the influence of saloons, which were also the gathering places of the second great wave of immigrants. The current anti-alcohol/drug crusade, which attributes rampant crime and the deterioration of inner cities to a breakdown in public morality abetted by alcohol and drug use, began in the 1970s as a reaction to the turbulent 1960s (Engs, 1997) and intensified in the early 1980s, when the 'war on drugs' was launched. In its wake, grassroots organizations such as Mothers Against Drunk Driving (MADD) emerged, and many states raised their legal drinking age and lowered their blood-alcohol level (BAL) criterion for impaired driving (Engs, 1997). This new wave of morality was heralded in the media as America's 'new temperance' (*Newsweek*, 12/84; *Time*, 5/85), the 'sobering of America' (*Business Week*, 2/85) and 'America: New Abstinence' (*Fortune*, 3/85) (quoted in Reinerman, 1988).

Concurrent with the reinvigoration of the temperance mentality in American life was the emergence of a new social problem: the victimization of children (Best, 1990). The problem of child neglect/abuse, reflected in the 'battered child syndrome', was first described in the medical literature in 1962 (Kempe *et al.*, 1962), and was broadened in the 1970s to encompass not only physical battering, but emotional, sexual and mental mistreatment as well. In the course of this evolution, child abuse and neglect became another symbol of

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America's moral decay (Best, 1990). It was within this dual context of the new temperance zeitgeist and the concern about the victimization of children prevailing in America that FAS emerged as a social problem in the 1970s, evolved into a moral crusade by the 1980s with its disturbing images of children 'wounded' (Greenfeld, 1989) or 'bruised before birth' (Steady, 1989), and became transmogrified into a moral panic characterized as 'child abuse in the unborn fetus' (Apolo, 1995) in the 1990s.

BREAKDOWN IN PUBLIC MORALITY

It is not unreasonable for people to become concerned about an issue which threatens social order, especially if the threat stems from a perceived deterioration in the values which people believe provide guidance for themselves, their children, and their society as a whole. It is probably not a coincidence that FAS entered the arenas of scientific and public awareness in the 1970s and gained such widespread acceptability and attention by the early 1980s, since the issue resonated with the renewed ideology of self control and personal responsibility associated with the conservative political climate that followed the turbulent 1960s (Reinarman, 1988).

The early construction of drinking during pregnancy as a social problem shared many of the same ideologies as those underlying the crusade against drunk-driving, most notably a focus on individual, personal responsibility for 'lifestyle choices' and a belief in the power of broad-based public education campaigns to change behaviour (Reinarman, 1988). However, in the case of FAS, much of the impetus behind the emerging crusade came from the biomedical community (Abel, 1984). An example of moralizing about the 'tragic disorder' of FAS and personal failing was an article in the *Journal of Dentistry for Children*, which described a despondent mother who consumed alcohol during her pregnancy allegedly lamenting 'If only I had known', a regret, the author stated, that occurs 'all too often' but need not if pregnant women would only learn, that 'life is not a beer commercial' (Waldman, 1989, p. 435). Other biomedical experts voiced breast-beating recriminations. A common theme was that the dangers of drinking during pregnancy were well known in Biblical and Greco-Roman times (Abel, 1984, 1997), implying that if we had only paid attention to the bitter lessons of the past, the modern 'tragedy' might have been avoided. 'Physicians, writers and theologians' had written about the effects of alcohol on the fetus 'since Biblical times' intoned Hill and Tennyson (1980), who then chastized modern society with the inclusive moral lapse of failing 'to heed the wisdom of our forefathers ...' (p. 177). The authors concluded with a statement from a temperance tract dating to the 1860s that said it still 'holds true today that parents are responsible for their children's infirmities, deafness, blindness and idiocy' (p. 198).

THE CRUSADE

Stirred by such moral rectitude, preventing FAS became an American crusade. The policy response rested on the

unproven premise that any amount of drinking in pregnancy posed a threat to the fetus. In 1981, the Surgeon General of the United States advised 'women who are pregnant (or considering pregnancy) not to drink alcoholic beverages and to be aware of the alcoholic content of foods and drugs' (Food and Drug Administration, 1981). The Surgeon General's warning stands in stark contrast to the official advice offered in other countries. The British Royal College of Obstetricians and Gynaecologists for example, issued guidelines in 1996 stating that 'no adverse effects on pregnancy outcome have been proven with a consumption of less than 120 grams of alcohol per week' and recommending that 'women should be careful about alcohol consumption in pregnancy and limit this to no more than one standard drink per day' (Royal College of Obstetricians and Gynaecologists, 1996). Although these recommendations have been challenged by some (Guerra *et al.*, 1999), they are typical of the European stance on prenatal drinking (EUROMAC, 1992).

In the USA in the years following the Surgeon General's warning, several state and local governments mandated 'point-of-purchase' warnings about drinking during pregnancy, and federal, state and local governments embarked on public education campaigns to alert all pregnant women to the potential dangers of drinking (Abel, 1984). These campaigns culminated in 1988, when the USA became the first (and still the only) country to adopt legislation requiring an alcohol warning label on every can of beer and bottle of wine and spirits mentioning the potential dangers of drinking during pregnancy (Public Law 100-690, 27 USC 201-211). By the beginning of the following decade, the crusade had turned into a moral panic, when in 1990 Wyoming became the first state to charge a pregnant woman who was drunk with felony child abuse (Holmgren, 1991).

MORAL PANIC

In essence, a moral panic is an exaggerated concern about some 'social problem'. Among the characteristics of every moral panic are the alleged breakdown in public morality described above, a heightened level of public concern, which is often feverish, exaggerated estimates of the numbers of people allegedly affected by the problem, a distortion of aetiology, and democratization of the condition's occurrence, such that no particular class, race, ethnic group, or any other socially constructed category is singled out as differentially affected (Goode and Ben-Yehuda, 1994; Thompson, 1998). The concept of moral panic originated in British sociology in the 1970s and has since been used to describe diverse social phenomena, ranging from Satanic ritual child abuse in the USA to child violence in the UK. Although some observers have critiqued the concept of moral panic and its overuse (Watney, 1987), it has become an established category of explanation in both the professional sociological imagination and in lay thinking. The British media in particular have often resorted to the idea of moral panic to describe social turmoil over pornography, youth culture, mugging, and the AIDS epidemic. In the following sections, we demonstrate how the concept of moral panic is a useful way to understand the American response to FAS and the threat posed by drinking during pregnancy.

FEVERISH PUBLIC CONCERN

Much of the feverish concern over FAS originated and continues to be fanned in Seattle, Washington, where its discoverers first characterized it as a 'tragic disorder' (Jones and Smith, 1973) and suggested that doctors urge their pregnant alcoholic patients to consider aborting their pregnancies (Jones and Smith, 1974). Although the abortion recommendation was immediately criticized as unwarranted and alarmist (Rosett, 1974; Sturdevant, 1974), Jones and Smith and their colleagues continued recommending that such women 'be urged to terminate their pregnancies' (Smith *et al.*, 1976). The fact that no prospective epidemiological study had as yet been conducted warranting such extreme measures did not deter this group, which maintained that such an 'academic pursuit' should not get in the way of an 'important human question' (Clarren and Smith, 1978). As a result, the abortion recommendation continued to be reiterated until 1980 (e.g. Lindor *et al.*, 1980), when the first prospective study showed that FAS was a rare outcome of maternal alcoholism during pregnancy (Sokol *et al.*, 1980), an observation subsequently confirmed by numerous investigators (Plant, 1985; Abel, 1998a).

Concern was also fuelled by the Seattle group through a subtle broadening of the problem. The comment that no case of FAS had ever 'been reported in a human being with a negative maternal history of ethanol use' (Clarren and Smith, 1978) carried the implication that FAS could occur as a result of any amount of drinking. Although first described in 1973 as a condition related to maternal alcoholism, by 1978, the danger of FAS was now linked to any amount of drinking during pregnancy (Clarren and Smith, 1978), and this in turn carried the implication that the problem was far greater than could be imagined: 'FAS ... resembles an iceberg with the bulk of the problem out of sight and of indeterminate extent' (Poskitt, 1984). The emotional rhetoric in the biomedical literature was quickly picked up by the American mass media. Articles in newspapers and magazines introduced alleged cases with headlines such as 'An innocent inherits the anguish of alcohol' (Dawson, 1992), 'Pregnancy, alcohol can be a deadly mix' (*Star-Tribune*, 1992), 'Drinking devastating to unborn' (King, 1991), 'Kids pay for prenatal drinking' (Snider, 1990), 'Children pay the ultimate price for a drink' (Wilson, 1998), 'Prescription for tragedy: alcohol and pregnancy stack deck against baby' (*Seattle Times*, 1996) and 'The tragic inheritance' (Theroux, 1989). The most trenchant description appeared in Michael Dorris's 1989 best-selling book *The Broken Cord*, an account of his experience raising an adopted son with FAS. The book brought the disorder to national attention and was made into a film for television.

EXAGGERATED ESTIMATES

Describing FAS as a 'tragic disorder' and a 'major public health problem' implies that it claims thousands, if not tens or hundreds of thousands of victims, and is thereby endangering the national health. The estimates of its occurrence, however, rarely supported this notion. The Centers for Disease Control and Prevention (1995a) place the incidence of FAS in the general population at less than 1 case/1000 (0.67/1000), similar to that reported in most prospective studies (Abel, 1998a).

Predictably, Seattle researchers placed it much higher; their estimate of the combined prevalence of FAS and partial FAS (referring to the presence of only some of the features) is 9.1 cases/1000, or about 1% of all births in the USA (Sampson *et al.*, 1997). This latter estimate is among the highest in the literature and is based on two carefully selected studies of women, many of whom were at high risk for various kinds of disorders.

Popular media reports of FAS have likewise exaggerated the extent to which the syndrome is increasing in frequency, with claims such as the 'Rate of alcohol-injured newborns soars' (*Chicago Tribune*, 1995) and 'the percentage of babies born with health problems because their mothers drank alcohol during pregnancy [had] increased sixfold from 1979 through 1993' (*New York Times*, 1995). However, since in 1979 FAS was still a new condition and most doctors did not recognize it, this 'sixfold increase' is more likely to represent an increase in the identification and reporting of cases, and not in incidence. These media stories were based on a report issued by the Centers for Disease Control and Prevention (CDC; 1995a) of the US Public Health Service. However, in the original report, the CDC noted that it had included not only diagnosed cases of FAS, but also any indication of excessive drinking, under the rubric of 'noxious influences'. Not only was the vagueness of this category not mentioned by the media, but neither was an accompanying report the CDC issued on the same day (CDC, 1995b) stating that only a small portion of the medical records they examined that were coded for FAS actually met the criteria for a rigorous case definition; that is, there were many false positives for FAS. Three years later, the CDC further invalidated its earlier report when it recognized that 'not all women who drink heavily will produce children with FAS' (CDC, 1998). In other words, the 'noxious influences' were not always 'noxious'. The earlier sixfold increase had in fact lacked validity.

BIOMEDICAL ENTREPRENEURSHIP

As attention to and anxiety around FAS and drinking during pregnancy grew, the clinical symptoms of FAS multiplied (Armstrong, 1998a). This process of 'diagnosis expansion' (Armstrong, 1998a) was closely related to another phenomenon: 'expertise expansion' (Armstrong, 1998a), in which physicians and researchers in a wide variety of subspecialties heralded with entrepreneurial zeal this 'exciting new field' (Clarren and Smith, 1978) and the 'new opportunities for research'. Between 1973 and 1984, 1.4% of all the articles in journals listed by *Index Medicus* dealt with alcohol and pregnancy compared to 0.9% for tobacco and pregnancy and 0.7% for narcotics and pregnancy (Abel and Welte, 1986). Thirty-seven of these journals contained five or more articles specifically related to fetal alcohol research during this period (Abel, 1990). An infusion of federal funding helped to support many new research initiatives. From 1990 to 1994 alone, the National Institute on Alcohol Abuse and Alcoholism (NIAAA) provided about 70 grants totalling between US\$9.8 million and US\$13.5 million annually (Stratton *et al.*, 1996).

Subspecialists in virtually every field of medicine responded to the moral fervour and the new funding incentives with a predictable announcement of newly discovered clinical

attributes of the syndrome. These new conditions were heralded as 'a new feature associated with fetal alcohol syndrome' (Azouz *et al.*, 1993), a new symptom 'not previously ... described in connection with fetal alcohol syndrome' (Adebahr and Erkrath, 1984), an 'underemphasized feature in FAS' (Crain *et al.*, 1983), and 'heretofore unreported symptoms' (Johnson, 1979). Among these 'new' symptoms were such isolated and rare anomalies as supernumerary mammillary bodies (Adebahr and Erkrath, 1984), steep corneal curvature (Garber, 1984), bilateral tibial exostoses (Azouz *et al.*, 1993), tetraectrodactyly (Herrmann *et al.*, 1980), clitoromegaly, hirsutism, and liver dysfunction (see Abel, 1990). Other articles raised the spectre of cancer, with reports of an association between prenatal alcohol exposure and Hodgkin's disease and leukaemia, as well as a formidable litany of tumours in the brain, liver, kidney, and adrenals (see Abel, 1990). More often than not, such reports were based on single isolated coincidences. The epidemiological evidence of an association between prenatal alcohol exposure and any of these conditions has never been demonstrated; most of the 'new features' are so atypical they have only been seen in a single case of FAS and in fact are excluded from the most recent American diagnostic paradigm for FAS (Stratton *et al.*, 1996).

DISTORTION OF AETIOLOGY

The amount of alcohol consumed during pregnancy that constitutes a danger to the unborn child was a critical issue in creating the moral panic over FAS, because the lower the amount, the greater the number of potential victims (the proverbial 'tip of the iceberg'), and consequently the greater the national guilt for condoning such a moral lapse.

The biomedical research community which provided these estimates had a certain pragmatic interest in framing the issue in terms of low thresholds because the greater the national panic, the higher the research budgets to do something to combat this national health problem. It is therefore not surprising that the estimated thresholds were, and continue to be, routinely misrepresented through the obfuscation of citing average consumption over a particular time period, rather than disaggregating the specific kinds of drinking patterns that are associated with FAS. For instance, a woman who has one drink a day every day and a woman who binges once a week, consuming six or more drinks at once, both average seven drinks a week. Yet each of these drinking patterns represents potentially very different levels of alcohol exposure for the woman and her fetus. Since peak blood alcohol levels (BALs) reached per drinking episode are a crucial factor in FAS (Abel, 1999), the 'average drinks' measure distorts the relationship between alcohol and teratogenesis and muddies our perceptions of risky drinking. Only a handful of researchers, such as Jacobson *et al.* (1993) and Ernhart (1991) have been forthright enough to clarify this issue. For example, in evaluating children whose mothers drank during pregnancy, Jacobson *et al.* (1993) placed the threshold for alcohol-related cognitive damage to children at an average of one drink a day during pregnancy, but emphasized that the effects they had observed were due to much higher exposure than indicated by this 'average'. Since none of the mothers studied drank every day, they acknowledged that the average did not represent a typical

drinking day. Instead, 'the women who drank above this "average" threshold exposed their infants to a median of six drinks per occasion' (p. 181). Similarly, Ernhart (1991) noted that a woman in her study who consumed an average of one drink a day during the course of her pregnancy, confined her drinking to the first 3 months of her infant's gestation, when she drank a gallon of wine, and a half case of beer, every Friday and Saturday evening. After that she did not drink for 3 months. Nevertheless, because drinking was averaged over the longer period, the woman's drinking appeared to be very low.

This bias in the medical literature has been magnified in the popular press and in lay pregnancy manuals and public health educational materials. Although many researchers recognize the significance of binge drinking as a risk for FAS, the distinction between number of drinks per drinking episode and number of drinks per week or month has been largely glossed over in public discussions of FAS, which tend to present any type of alcohol consumption as dangerous.

DEMOCRATIZATION

The essential criterion for any social problem is its universalization (Wagner, 1997). As long as a problem is orphaned, especially if it is identified as a problem only within a minority race or social class, it has limited impact on society as a whole. Liberal-minded social scientists are especially wary of associating a stigmatized behaviour with race or class, because such associations perpetuate discrimination (Wagner, 1997). By disassociating race or class from a stigmatized behaviour, the problem is more likely to gain public attention, because everyone now feels a vested interest in its elimination. The language of democratization therefore characterizes most social problems, e.g. child abuse, alcoholism, cocaine addiction, teenage pregnancy or domestic violence. Despite the fact that these are not 'equal opportunity' disorders (Abel, 1995; Wagner, 1997), they are typically scaled up into the middle and affluent classes to draw greater attention to the problem at hand and to overcome any charges of racism, classism, elitism, or any other accusation of discrimination (Wagner, 1997).

FAS has not been immune to democratization. When the disorder was first described in 1973, Jones and Smith and their co-workers took pains to emphasize its universalism by reporting that the eight unrelated children they had observed belonged to 'three different ethnic groups ...' (Jones and Smith, 1973). However, FAS has never been an 'equal opportunity birth defect' (Abel, 1995); its inseparable handmaidens are poverty and smoking (Bingol *et al.*, 1987; Abel, 1995). What Jones and Smith and their colleagues did not emphasize was that the eight children, and virtually all the other children they and others subsequently examined, were seen in hospitals serving a predominantly lower socio-economic status population. Groups whose members suffer disproportionate poverty, such as Native Americans and African Americans, are especially prone to this disorder. In the Yukon and Northwestern areas of Canada, the rate for FAS and partial FAS has been estimated at 46/1000 for Native children compared to 0.4/1000 for non-Native children, a 1000-fold difference (Asante and Nelms-Matzke, 1985). In the USA, the rate of FAS among low income populations is 2.29/1000

compared to 0.26/1000, for middle- and high-income populations (Abel, 1995). Despite the empirical evidence, grass roots organizations, such as the National Organization on Fetal Alcohol Syndrome (NOFAS) continue to espouse the view that FAS is a threat to *all* pregnancies. When NOFAS was founded, for instance, its executive director stated: 'I think a lot of middle-class and upper-class women don't know that occasional use of alcohol during pregnancy is dangerous' (Information Access Company, 1991).

While it is true that drinking occurs across all social categories in the USA, FAS is undeniably concentrated among disadvantaged groups. The very large socio-economic differences in FAS rates (Able, 1995) are not due to differences in the number of alcoholic women among the poor compared to the middle classes. In fact, drinking is much more common among the middle and upper classes than among the poor (Abma and Mott, 1990; Caetano, 1994; Abel, 1998a). Instead, the reason FAS occurs predominantly among poverty stricken women is that they experience, or are characterized by, many more 'permissive' factors, such as smoking and poor diet, that exacerbate the effects of alcohol (Abel and Hannigan, 1995). Since FAS cannot be divorced from poverty, insisting that FAS 'crosses all lines' perpetuates the problem by situating it solely within an alcohol context instead of the wider context of poverty.

Democratization disguises the extent to which moral panic about FAS may in fact spring from much deeper social unease about changing gender roles and about class and particularly race differences (Armstrong, 1998a). Many legal commentators in the USA have noted that the recent rash of prosecutions of pregnant women for substance use and purported fetal harm are concentrated among poor and most often minority women (Roberts, 1991; Gomez, 1997). The moral panic over FAS likewise may reflect social divisions typically invisible in American society, particularly rifts over what constitutes a 'good mother'.

IMPLICATIONS

Although a debate exists about the extent to which the USA differs from other countries with regard to the incidence of FAS, there can be little doubt that the American response to drinking during pregnancy is exceptional. The USA remains the only country to legislate warning labels on alcoholic beverage containers; the American Surgeon General's warning about drinking during pregnancy is unique in the strength of its recommendations that women should abstain from alcohol altogether and should, moreover, be vigilant about the miniscule alcoholic content of food and drugs. In this respect, the moral panic over FAS echoes earlier periods of concern about alcohol in American history; to wit, the prolonged struggle over temperance in the nineteenth century and the prohibition of the manufacture, sale and consumption of all alcohol in the USA between 1919 and 1933.

However, the moral panic over FAS in the USA, unlike earlier periods of social preoccupation with alcohol, is driven as much by gender division as by class or socio-economic divisions. Although its sufferers appear to be concentrated among the poor, the public image of the condition as a universal one resonates with issues of social control and

gender. As Armstrong (1998a) has noted in an earlier analysis, the diagnosis of FAS arose at a period of intense gender agitation in the USA, and thus reflects widespread social unease about the conflict between the traditional maternal role of women and their efforts to embrace more diverse roles in modern society.

Historically, moral entrepreneurs have mobilized moral rhetoric when they have felt social norms threatened by outsiders or newcomers to society; in other words, as response to social deviance. Moral panics may arise when social elites seek to preserve or defend their status in the social hierarchy (Gusfield, 1963); alternatively, moral panics may serve to deflect political attention from intractable social problems, or inequality inherent in the social structure (Hall *et al.*, 1978). As Plant (1997) has noted in the British context, the moral panic ignited by FAS in the USA served the further purpose of diverting attention from social inequality and displacing blame for poor pregnancy outcomes to individual mothers rather than social circumstances. Women, in their child-bearing and child-rearing roles, have always been held particularly responsible for the 'future of society'. The case of FAS illustrates that this is still true.

The moral panic ignited by concern over FAS, with its exaggerated claims, especially regarding the dangers of social and moderate drinking, and its universalization, has important implications. Reporting 'averages' as if they represented a typical drinking day has led to a widespread perception among the American public that even one drink during pregnancy is dangerous. There have been countless reports of visibly pregnant women who were harassed by indignant strangers when seen to be drinking in public; likewise, there are accounts of morally righteous waiters and barstaff who have refused to serve visibly pregnant women alcoholic beverages. Even some American clinicians have fallen prey to this misunderstanding (Abel and Kruger, 1998), which has caused some women to become so anxious that they have considered termination of their non-threatened pregnancies so as to avoid giving birth to a child with FAS (Armstrong, 1998b; Lipson and Webster, 1990; Koren, 1991).

If we are to reduce the incidence of FAS, we must first accurately comprehend the problem at hand and abandon the rhetoric of moral panic. There is no epidemic of FAS births. Nor is 'social' or 'moderate' drinking among the almost 4 million pregnant women who give birth annually in the USA a risk factor for FAS. However, the risk is considerably greater for the relatively small number of women who abuse alcohol on a regular basis, and it is even greater for those women who have previously given birth to a child with FAS and continue to drink (Abel, 1988).

While government has a moral duty to alert citizens to potential dangers (Abel, 1998b), public education measures, such as warning labels, have no noticeable effect in reducing drinking during pregnancy (Hankin, 1996), as evidenced by the fact that more, not fewer women, are now drinking during pregnancy than before the appearance of the labels (CDC, 1997). Such broad-based prevention efforts are doomed to fail, because women who give birth to children with FAS are not simply a variant of the general drinking population. A small proportion of women of child-bearing age, especially those who are most disadvantaged by poverty, bear the greatest burden of risk for FAS. If we are going to reduce the incidence

of FAS, we need first to know who those women are, as well as what puts them at risk. If we hope to reduce the incidence of this birth defect, we must reconstruct the problem not as a moral panic, but as a moral imperative to find and help those women most at risk of adverse outcomes.

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