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ORIGINAL ARTICLE

Conceiving Risk, Divergent Responses: Perspectives on the Construction of Risk of FASD in Six Countries

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Conceptualizations of risks related to women's alcohol use during pregnancy, and the attendant response to preventing fetal alcohol spectrum disorder (FASD), are examined in six countries: the United States, Canada, the United Kingdom, Uganda, Uruguay, and China. Considerable differences were found in how risks were conceptualized across countries and in contextual factors that influence research, prevention, and intervention efforts. Differences in conceptualizations were also apparent within countries. Differences also existed in the degree to which the issue of drinking during pregnancy has been minimized or amplified and in whether and how responses are linked to treatment or other public health interventions.

Keywords alcohol consumption, construction of risk, gender, international perspectives, pregnancy

BACKGROUND

International research about gender and alcohol use has grown considerably during recent years (Bloomfield, Gmel, & Wilsnack, 2006; Wilsnack & Wilsnack, 2002). Wilsnack, Wilsnack, and Obot (2005) articulate the value of examining relationships between gender, alcohol consumption, and alcohol use-related problems across cultures. First, although men generally drink more than women across cultures, explanations are needed to understand how these differences have varied across different societies, during different time periods, and among different cohorts. Second, cultural beliefs about alcoholic beverages and their consumption intersect with gender-related expectations and social norms. For example, changes in gender roles may correlate to changes in drinking behaviors for both women and men. Finally, unexamined assumptions about drinking and gender may contribute to problems as to whether and how alcohol use-related problems are addressed: on the one hand, the prevalence and health impacts of women's alcohol use may be underestimated, while on the other hand, when women's drinking becomes evident, it may arouse "social outrage and the use of punishment or coercion to try to stop such behavior" (Wilsnack, Wilsnack, & Obot, 2005, p. 3). Gendered expectations about mothering are particularly salient to understanding societal responses to drinking or other drug use among women, particularly pregnant or parenting women (Boyd & Marcellus, 2007; Campbell, 2000; Gomez, 1997; Greaves et al., 2002; Humphries, 1999; Kaskutas, 1995; Waterson, 2000).

Women's alcohol consumption often gains attention when it intersects with concerns about the possible negative and preventable health effects associated with alcohol-exposed pregnancies, including fetal alcohol spectrum disorder (FASD). Fetal alcohol spectrum disorders (FASDs) is an umbrella term that describes a wide range of possible effects that can occur as a result of prenatal exposure to alcohol, which includes specific conditions such as fetal alcohol syndrome (FAS), alcohol use-related neuro-developmental disorder (ARND), and other alcohol use-related birth defects (ARBD) (Calhoun & Warren, 2007). FASD is emerging as an important public health issue internationally (Calhoun & Warren, 2007;

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Riley et al., 2007; Stromland, 2004). However, countries vary considerably in terms of attention, responsivity, and messaging related to alcohol consumption among women during pregnancy.

The attention to women's alcohol use in the context of pregnancy is complicated by the complexity of alcohol's effects. Alcohol is a teratogen, yet its effects vary in relation to different levels of exposure, differences in genetic backgrounds, and larger determinants of health such as nutrition (Barry et al., 2009; May, 1995; May et al., 2005). FASD risk is greatest in the context of "heavy drinking" during pregnancy (Stratton, Howe, & Battaglia, 1996); however, some recent studies indicate that "light" alcohol consumption may also produce a range of negative outcomes (Swedish National Institute of Public Health, 2009). As such, while not all alcohol use during pregnancy results in FASD, no generic safe level of alcohol use during pregnancy can be offered (Henderson, Gray, & Brocklehurst, 2007; Swedish National Institute of Public Health, 2009; Testa, Quigley, & Das Eiden, 2003).

The social construction of alcohol use-related risks and how risks are communicated play an important role in the development of policy, programs, and public discourse related to alcohol use-related problems as a whole (Hansen & Gunter, 2007) and FASD specifically (Connolly-Ahern & Broadway, 2008; Kaskutas, 1995). Critiques of the construction of risk for FASD in some countries, such as the United States, point to how risk has been medicalized (to an extent that social and structural influences on women's drinking are ignored); framed as a moral or legal issue; and linked to prevailing beliefs about motherhood, addiction, and the status of the fetus (Armstrong, 1998, 2003; Golden, 2000, 2005; Knupfer, 1991; Waterson, 2000). Interpretation of risk for FASD and subsequent development of policy appears to be influenced not only by science but also by social climate (Kaskutas, 1995). A recent examination of policies about alcohol use during pregnancy in English-speaking counties found considerable variation in policy statements between countries as well as differences in recommendations between different government and health organizations (O'Leary, Heuzenroeder, Elliott, & Bower, 2007). Similar variation within and between countries is evidenced in documents summarizing policies across many European and English-speaking countries (International Center for Alcohol Policy, 2007). Policies reflect three distinct interpretations of risk: (1) no safe level has been established and, consequently, abstinence during pregnancy is the only safe choice; (2) abstinence is the safest choice, with a concurrent message about avoiding particularly risky patterns of drinking; and (3) low intake is unlikely to be harmful to the fetus (O'Leary et al., 2007). There is a notable absence in the literature about evolving interpretations of risk in developing countries and little discussion of how various constructions of risk may be reflected in broader public health policy, prevention, and intervention initiatives.

Review Purpose and Methods

The overall aim of this review was to explore interpretations of risk in different countries, including both developed and developing countries in four different continents. The cultural context in which those interpretations of risk emerge and how interpretations of risk impact policy and practice are also explored. Reviews were conducted by a subgroup of members of the GENACIS (Gender, Alcohol and Culture: An International Study) research project. GENACIS is a multidisciplinary international research project involving researchers from over 35 countries, developed to address the dearth of comparable data on gender and alcohol use across cultures (Bloomfield et al., 2006; Wilsnack et al., 2005). GENACIS researchers conducted reviews in their respective countries to examine the understanding of risk related to women's alcohol use during pregnancy, and the attendant response to FASD in their countries using three guiding questions:

1. What do we know about drinking during pregnancy in different countries?
2. What are the differing interpretations of risk and related "messages" pertaining to women's drinking during pregnancy across cultures and how do these interpretations of risk impact policy and practice?
3. What are the different challenges and opportunities for countries in terms of research and responses related to women's alcohol consumption, including consumption during pregnancy?

The review countries included in this paper are Canada, China, Uganda, Uruguay, the United Kingdom, and the Unites States. These countries represent three English countries that have developed formalized but differing approaches to conceptualizing FASD risk and three countries that are early in the process of developing policy, practice, and messaging related to alcohol consumption during pregnancy. Table 1 provides a summary of overall drinking rates by gender in the counties based on data from the World Health Organization (WHO). Other pertinent information about each country, including information about drinking during pregnancy, and other contextual information are provided in the country-specific descriptions.

COUNTRY REVIEWS

Canada

Over the past 20 years, momentum has built in Canada on all aspects of addressing FASD-related concerns, including building awareness of the disability, multifaceted prevention strategies, development of diagnostic guidelines and capacity, interventions with those affected in different settings, development of provincial and national strategic plans, a national clearinghouse of information, research and research networks, and international leadership.

TABLE 1. Drinking patterns in participating countries: World Health Organization Global status report on Alcohol 2004 and country profiles

Region	Drinkers[a]		Heavy drinking[b]		Heavy episodic drinkers[b]	
Canada	Women	73.9%	Measure not included		Women	11.2%[f]
	Men	82.2%			Men	28.3%[f]
China	Women	26.9%	Women	3.9%[d]	Women	0.3%[g,h]
	Men	72.5%	Men	15.6%[d]	Men	7.5%[g,h]
Uganda	Women	39.7%	Women	20.3%[d]	Women	17.6%[i]
	Men	51.8%	Men	40.1%[d]	Men	46.0%[i]
United Kingdom	Women	86.0%	Women	42.0%[e]	Women	9.0%[j]
	Men	91.0%	Men	39.0%[e]	Men	24.0%[j]
United States	Women	61.8%	Women	5.0%[d]	Women	15.1%[k]
	Men	70.7%	Men	6.4%[d]	Men	31.2%[k]
Uruguay	Women	56.8%[c]	Women	2.7%[d]	Women	1.5%[g,h]
	Men	75.0%[c]	Men	7.1%[d]	Men	6.7%[g,h]

[a]Based on past year abstention rates unless otherwise indicated.
[b]Among drinkers only unless otherwise specified.
[c]Based on lifetime abstention.
[d]Consumption of 40 g or more pure alcohol per day for men/20 g for women.
[e]Consumption of five or more standard drinks for males and three or more for females on typical drinking day.
[f]Consumption of five or more drinks on one occasion, 12 or more times in last year.
[g]Consumption of five or more drinks on one occasion, at least once a week.
[h]Among total population.
[i]Consumption of five or more drinks on one occasion at least once a month in past year.
[j]Consumption of six or more drinks on one occasion weekly or more.
[k]Consumption of five or more drinks on at least one occasion in the past 30 days.
Note. Countries in bold indicate surveys that were regional rather than national.

In fact, the level of FASD-related activity in Canada is remarkable given the scarcity of population level data on the extent of drinking during pregnancy and the incidence and prevalence of FASD. Data on FASD have been gathered in specific contexts such as among youth in correctional facilities (Fast, Conry, & Loock, 1999), in child custody populations (Fuchs, Burnside, Marchenski, & Mudry, 2005) and in specific Aboriginal communities (Robinson, Conry, & Conry, 1987). However, given the challenges of implementing broad-scale diagnostic capacity, the estimate of overall prevalence of FASD remains elusive. Questions about drinking during pregnancy were not included in the 2004 Canadian Addiction Survey (CAS), but the CAS identified that over three quarters of all Canadian women drink, and provided useful demographic data on subgroups of women drinkers (Ahmad, Flight, Singh, Poole, & Dell, 2008). Some drinking prevalence data are available in Canada from perinatal health databases and general surveys of public health (British Columbia Centre of Excellence for Women's Health, 2009b). The data from the Canadian Community Health Survey (Statistics Canada, 2001) show that approximately 12%–14% of Canadian women drank in their last pregnancy (frequency or level of their alcohol consumption was not gathered).

Initially, FASD was framed largely as a child health issue in Canada. Pediatricians, other child health professionals, foster parents, and adoptive parents identified the challenges in treating, educating, and parenting children, and advocated for funding and support from health and social service systems for those with FASD and their families. More recently, women's health promotion experts, maternity care specialists, and substance use researchers have contributed to the FASD field, bringing attention to prevention of FASD as a women's health concern.

Canadian women's and child health advocates have identified the following four mutually reinforcing FASD prevention levels that address women's alcohol use during pregnancy and promote women's and children's health overall:

1. Raising public awareness through campaigns and undertaking health promotion and community development activities;
2. Providing the opportunity for girls and women of childbearing years to have safe discussion of pregnancy, alcohol use, and related issues, with their support networks and health care providers;
3. Providing recovery and support services that are specialized, culturally specific, and accessible for women with alcohol use-related problems and related health concerns; and
4. Providing postpartum support for mothers who were not able to make significant changes in their substance use during pregnancy, to assist them to continue to improve their health and social support, as well as access early intervention for children where needed (Poole, 2008).

The messaging used in the broad provincial and national awareness campaigns in Canada is that it is safest not to drink during pregnancy, as there is no known safe time or safe amount (ActNow BC, 2009; Alberta Health

Services, 2009; Best Start, 2009; Poole, 2008). These Canadian campaigns often place a strong emphasis on engagement, encouraging women to access prenatal care, and encouraging friends, family, and communities to support women to stop or reduce drinking in pregnancy. Often these large-scale prevention campaigns are linked to other levels of prevention that contextualize women's drinking in broader determinants of women's health such as violence against women, stigma/discrimination, and access to health care and nutrition (Best Start, 2002; Parkes, Poole, Salmon, Greaves, & Urquhart, 2008).

To address the second level of prevention relating to education and identification of women at risk, several provinces in Canada have delivered knowledge translation and professional training initiatives designed to support health care professionals in discussing substance use with all women of childbearing years (Alberta Alcohol and Drug Abuse Commission, 2003; Best Start, 2009; British Columbia Centre of Excellence for Women's Health, 2009a). In addition to this professional support in the mainstream health care system, the federal government funds community-based groups across Canada to deliver programming for vulnerable pregnant women through the Canada Prenatal Nutrition Program. These community-based programs offer food supplementation, nutritional counseling, and support and referral on health issues such as drinking and smoking in pregnancy.

To meet the needs of women who find it difficult to stop drinking in pregnancy, health promotion and prevention specialists in Canada currently advocate multisectoral, holistic approaches, which contribute to improving women's health and reducing the risk of having a child affected by FASD. Beyond advice to reduce or stop drinking while pregnant, these approaches encompass a wide range of services to help women plan their pregnancies, obtain prenatal care, improve their nutrition, reduce stress in pregnancy, and heal from root causes of addiction such as experience of violence and abuse.

In addition to the work with women before and during pregnancy, holistic support is made available to support new mothers in the postpartum period to maintain healthy changes they have been able to make during pregnancy and avoid relapse. Professional and peer support is also provided for mothers who continue to be challenged by tobacco and alcohol use and related problems, and/or who are birth mothers of children with FASD and their families. This level of prevention in the postpartum period has been found to have significant benefits for women's and children's access to services and improvement in health (Motz, Leslie, Pepler, Moore, & Freeman, 2006).

One challenge for Canada is to both maintain and expand upon this work. For example, considerable work remains to be carried out to support physicians, other health professionals, alcohol treatment services, pregnancy outreach programs, and others who reach women, at preconception, during pregnancy, and postpartum, to identify and effectively assist women at differing levels of risk related to their differing patterns of use. With the development of guidelines for physicians, discussion is ongoing as to how to message and support women who have alcohol use-related problems and related health concerns, a preconception pattern of binge drinking or a preconception pattern of "light" drinking.

The linkage of the interests of mothers and children, particularly in the policy realm, also remains a challenge (Greaves & Poole, 2007). Media and policy discourses often reflect a child-centered focus that constructs children's interests as competing with or subsuming the interests of mothers (Boyd & Marcellus, 2007; Campbell, 2000; Greaves et al., 2004). Unwarranted, harsh judgments of mothers who use substances persist, as does the view of competing rights of mother and child, where mothers' rights to respect, treatment, and to mother are subsumed to those of the child (Greaves et al., 2004; Reid, Greaves, & Poole, 2008). Canadian researchers and policy advocates are working to present evidence of the negative impact of such competing rights discourses, and of the merits of strengths-based models of practice and policy focused on supporting the mother–child dyad (Poole & Greaves, 2009; Rutman, Callahan, Lundquist, Jackson, & Field, 2000).

China

Compared with other developing countries with existing surveys for general populations, such as countries participating in GENACIS (Wilsnack & Wilsnack, 2002), China does not have a national population-based survey that allows for monitoring alcohol consumption in a representative sample. Consequently, China has significant unmet needs in assessing the patterns and consequences of alcohol consumption in general populations and among women, including women at risk of having children with FASD.

Despite being a country with low prevalence and volume in overall alcohol consumption, China has experienced an expansion of alcohol industry marketing along with rapid social changes in the past three decades, which has been associated with a striking increase in alcohol consumption and hidden health impacts and social consequences (Hao, Chen, & Su, 2005; Hao, Su, & Chen, 2007). The rapid social changes include the fastest growing economy, urbanization, industrialization, globalization, and adoption of "new" lifestyles (Hao, Young, & He, 1995; Zhang et al., 2004). Available literature suggests that the global burden of disease with regard to alcohol consumption is considerable in China. In 2001, alcohol use was the second leading risk factor for the global burden of disease in China at 5.6%, ranking between high blood pressure (7.3%) and tobacco use (4.9%) (Disease Control Priorities Project, 2006; Mathers, Lopez, & Murray, 2006).

Limited data were available regarding the prevalence and the trends in drinking by women and drinking during pregnancy in China; however, drinking appears to be increasing among younger age groups of Chinese women. A study on a cluster sample of 24,992 respondents aged 15 years or above in cities and rural areas in five provinces in 2001 reported that Chinese women are less likely to drink than Chinese men across all age groups (Hao et al.,

2004). This study reported the percentage of men and women drinking in the past year as 74.9% and 38.8%, respectively. Another study examining alcohol consumption over time based on a random sample of people aged 15–65 years from Wuhan city documented a significant increase in the prevalence of drinking alcohol among some age groups of women, including younger women aged 18–19 years (from 34% in 2002 to 63% in 2005) and older women aged 50–59 years (from 36% in 2002 to 55% in 2005) (Zhang, Casswell, & Cai, 2008). Furthermore, a few studies investigated specific high-risk groups among women in China. About one-third of 454 female sex workers recruited from entertainment establishments in one city reported being drunk at least once a month in the past 6 months (Hong, Li, Fang, & Zhao, 2007). About one quarter of 728 sexually experienced young female rural-to-urban migrants in Beijing and Nanjing reported being intoxicated during the past 30 days (Lin et al., 2005).

In relation to evidence based on data from general population studies, research on drinking among women of childbearing age and FASD risks in China lags far behind other countries. A systematic search of the literature on drinking among pregnant women in China found few published studies. One population-based study reported the prevalence of drinking among pregnant women (6.2% in rural, 10.3% in urban) in regions with a high prevalence of infant neural tube defects (Ren, Zhang, Hao, Li, & Tian, 2007). Furthermore, FASD cases have not been reported in mainland China but occasionally reported in Singapore or Taiwan (Kan, Tsai, Peng, & Tsai, 1998; Pradeepkumar, Tan, & Ivy, 1996). According to a case report from Singapore, some FAS features of one 3-year-old boy were associated with a history of daily maternal use of "Herbal Health Tonic" during the first 2 months of pregnancy; this preparation contains 14% alcohol (Pradeepkumar et al., 1996). Potential underreporting may be attributed to gaps in training of health professionals related to screening, routine practices, or general knowledge.

In terms of construction of risk, traditional Chinese norms discourage alcohol use among women (Hao et al., 1995). Women in urban areas may have exposure to educational information on the harmful effect of alcohol use during prenatal visits, and access to prenatal care in rural areas appears to be improving (Short & Zhang, 2004). However, there are as yet no national guidelines about safe drinking targeting any specific population (e.g., alcohol warning label to pregnant women), and the gaps in research are daunting given the growth of alcohol production, changes in social norms, and heterogeneity in mainland China, with 22% of the world population and diverse socioeconomic and ethnic groups (Cochrane, Chen, Conigrave, & Hao, 2003).

Clearly, there are a number of unmet needs in FASD-related policy, programs, and practice. Current professional health care providers have conducted limited assessment of drinking among childbearing age women or FASD risks. Related programs, legislation, and governmental policy have not yet been developed. There is a lack of knowledge and limited efforts to support physicians or public health systems to screen and identify women and children at risk. The facial features of FASD and related diagnoses have not been widely taught in the medical systems and public health systems.

However, there is a promising progress and opportunity for future research. Screening and intervention for alcohol use-related problems among special high-risk groups (e.g., female sex workers) (Hong et al., 2007; Yang, Li, Stanton, Chen, & Liu, 2005) have just begun gaining attention. Treatment programs designed for women with alcohol use-related problems have also not yet been developed. In basic research, traditional Chinese medicine Kudzu treatment was shown to be effective in significantly reducing beer consumption among male and female "heavy" drinkers in the United States, which may be promising in treating women at risk for prenatal alcohol use (Lukas et al., 2005). Overall, pressing needs remain to assess, intervene with, and develop policies for women at high risk, women in recovery, and children identified as having FASD.

In addition, future research might explore paternal influences about alcohol use-related birth defects in Chinese settings. Research in this area is lacking in many countries (Abel, 2005; Tanaka, Suzuki, & Arima, 1982). Due to the powerful influence of the significant people in the life of women, government documents from some countries have recommended adoption of a family-oriented approach to FASD prevention (Institute of Medicine, 1996); this approach may be particularly salient in China. Improvements are also needed in the capacity of medical and public health fields to conduct research and evaluate prevention practices related to FASD risks.

Uganda

There is a lack of data and general information on drinking during pregnancy and FASD in Uganda. However, statistics show that a substantial proportion of women consume alcohol frequently and "heavily." According to the GENACIS study of 2003, 39.7% of women drank alcohol in Uganda compared to 54.7% of men. Among drinkers, 38.9% of women drank weekly or daily (Tumwesigye & Kasirye, 2006). Among the women drinkers, 20.3% were considered heavy drinkers. Furthermore, 6.5% of women were frequent "heavy drinker," defined as consuming five or more drinks once or more times a month in the previous year. In terms of alcohol use-related consequences, 24.6% of women reported that alcohol had contributed to poor physical health and 9.2% of women reported having had an injury or injured someone as a result of alcohol consumption (Tumwesigye & Kasirye, 2006). According to the Demographic and Health Survey of 2001, one in four women consumed alcohol at least once in the previous 30 days. Among those who drank, one in four women had been drunk at least once during the same 30-day period (Uganda Bureau of Statistics [UBOS] and Macro International, 2006).

Among those under the age of 30 years, patterns of drinking may be changing as women were equally likely to be current drinkers as men in the 2003 study (women

28.0% and men 26.1%) (Tumwesigye & Kasirye, 2006). This may be related to both increased drinking among young women and increased abstention among young men (Tumwesigye & Kasirye). Uganda ranks among countries with the highest per capita alcohol consumption: 19.5 l in 2004, which is nearly four times greater than the worldwide average (WHO, 2004). A study in northern Uganda found extremely high rates of post-traumatic stress disorder (Roberts, Ocaka, Browne, Oyok, & Sondorp, 2008), which may also be a risk factor for alcohol use-related problems. In spite of these potential risks, no action has been taken to prevent alcohol abuse[1] among the population, in general, or among women, in particular. Existing policies against alcohol abuse are old and weak, but there is an effort to make new ones and strengthen the old ones (WHO, 2004).

The prevalence of birth defects in Uganda is estimated at 61 per 1,000 (Christianson, 2009); however, data on FASD are not available. Uganda has the fourth highest total fertility rate in the world at 6.7 (Population Reference Bureau, 2009). This high fertility rate combined with the high rates of drinking, particularly among young women, suggest that alcohol-exposed pregnancies are very likely. This possibility appears to be supported by the one study to date that examined explicitly drinking among pregnant women in one city in Uganda (Namagembe et al., 2010), where it was found that 25% of women consumed alcohol after learning they were pregnant.

There are few formal messages about drinking or drinking during pregnancy directed to women. Although drinking for social purposes is normative in Uganda, drinking among women is traditionally restricted to home or social events (Tumwesigye & Kasirye, 2006; YEAH, 2007). Drinking in bars or other public contexts is not common, requires disposable income and mobility, and is perceived as taking women away from spousal and maternal roles (Kafuko & Bukuluki, 2008; YEAH, 2007). Women who drink to excess, drink publicly, or drink outside of social accepted hours are perceived to risk their dignity and increase vulnerability to physical or sexual assault (Kafuko & Bukuluki, 2008; YEAH, 2007). Despite rigid gender norms that govern what is acceptable for women to do in regard to alcohol consumption, it is generally women who brew and sell alcohol, which is an accepted economic activity in the general population. Traditionally, it is not acceptable to drink during pregnancy, but cultural norms related to drinking across regions in Uganda are changing.

There is a paucity of information about drinking during pregnancy and FASD in Uganda, which may be improved by research in both the general population and in health settings. Uganda has no clear regulatory policy on alcohol, such as restrictions on density of outlets and regulations about alcohol advertisements and sponsorships (YEAH, 2007). Existing laws, such as prohibiting sale of traditionally produced spirits and sales to minors, are not well enforced. These challenges might be addressed through development and implementation of policies that may reduce "heavier" alcohol consumption and alcohol use-related problems among women. Women who drink during pregnancy appear to consume commercial alcoholic beverages, such as beer, rather than traditional drinks (Namagembe et al., 2010); consequently, policies requiring prominent warning labels about possible adverse effects of drinking during pregnancy may be a useful policy initiative. There may also be opportunities for linking risks associated with "heavier" drinking among women, including women who may be pregnant, to other urgent health issues. For example, recent studies suggest that alcohol use, particularly "heavier" or problem drinking, is associated with human immunodeficiency virus (HIV) infection among women (Fisher, Bang, & Kapiga, 2007; Fisher, Cook, Sam, & Kapiga, 2008).

Uruguay

Uruguay's 3.5 million inhabitants have mainly Italian and Spanish ancestors and, until about 30 years ago, maintained a cultural pattern of drinking similar to the one they brought from their countries: drinking with moderation, with meals, and with the family. This has changed with globalization to a drinking pattern that includes significantly more drinking for reasons of mood regulation (Míguez, 2004).

Uruguay has epidemiological registries capturing alcohol consumption since 1991. Although the last 2006 National Household Survey indicated that 50% of women, aged from 14 to 45 years, consumed alcohol in the prior 12 months, data are not available for specific populations such as pregnant women. The National Drug Board, Junta Nacional de Drogas (JND), developed National Home surveys in 1998, 2001, and 2006 (JND, 2006). Overall estimates for the past 30-day alcohol consumption have been fairly consistent over recent surveys: 1998 (32.5%), 2001 (32.3%), and 2006 (31.8%). Data from national surveys indicate that alcohol consumption among women is generally significantly lower than men, which is a drinking pattern consistent with previous generations. However, examination of alcohol consumption by age groups suggests that the gap between female and male past 30-day alcohol intake is narrower in youngest age groups (12–17 and 18–25 years) (JND, 2006). In this way, the generation variable is critical when determining a woman's risk for alcohol use-related problems and for alcohol consumption during pregnancy. Studies of alcohol consumption among pregnant women need to examine differences among subpopulations, such as age groups, and include data pertaining to the intervals of regular consumption and the frequency of "heavy" consumption (Magri, Hutson, et al., 2007).

Although drinking during pregnancy in Uruguay is not examined in national surveys, recent studies have examined alcohol and other drug consumption during pregnancy. For example, one study based on face-to-face interviews and examination of meconium samples from 900 women identified through hospital perinatal

[1] The journal's style utilizes the category *substance abuse* as a diagnostic category. Substances are used or misused; living organisms are and can be *abused.* Editor's note.

registries found that 37% of respondents reported alcohol consumption at some point during their pregnancy (Magri, Hutson, et al., 2007). Two surveys were developed in 2005 (Magri, Míguez, et al., 2007) and 2007 (Magri et al., in progress) in the main maternity public hospital with the general objective of determining the nature and magnitude of alcohol and other drug consumption during pregnancy in order to lower newborn morbidity and mortality. Specific study objectives included determining the association between alcohol consumption and positive biomarkers, such as between meconium and fetal alcohol ethyl esters (FAEES), and between umbilical cord tissue and phosphatidylethanol (PEth) (Derauf, Katz, & Easa, 2003; Moore, Jones, Lewis, & Buchi, 2003; Ostrea et al., 2006), prevalence of FAS, and level of information about alcohol effects that mothers receive during gestation. These studies represent efforts to diversify methodologies and to extend the quality of the evaluation to better measure alcohol consumption during pregnancy. The findings of the 2007 survey, similar to the 2005 data, describe a young population (58.3% between 15 and 25 years old), incompletely educated (93.7% had not completed secondary school) and from low socioeconomic status (SES; 97%). Approximately, 65.6% of the study population reported alcohol consumption during pregnancy. Biomarkers were studied in meconium with FAEES in 2005 and 2007 showing higher rates of alcohol consumption, and also in umbilical cord tissue with PEth in 2007, which is still in analysis, but suggesting higher drinking rates than the self-report data (Magri et al., in progress).

Only 20% of the medical team informed the mothers during their medical check-ups about possible alcohol-related harms for her, the fetus, and her family when drinking during pregnancy and beyond (Magri et al., in progress; Magri, Míguez, et al., 2007). There is a lack of consistent messaging about alcohol consumption during pregnancy directed to the population as a whole or in the context of communications between health care providers and pregnant women. Health care providers seldom communicate with mothers or families about drinking before, during, or after pregnancy.

It appears that Uruguay has a population of younger women, including women with lower SES, who are at risk for alcohol-exposed pregnancy. Furthermore, there are no specific resources for their treatment nor specific prevention plans, neither from the governmental nor from the nongovernmental sectors. In Uruguay, and for this specific population, there is an urgent need for information and training on this subject for health care providers, as well as for increased awareness and actions from the community and the governmental sector.

The United States

The term Fetal Alcohol Syndrome (FAS) was introduced in the United States in the mid-1970s (Jones, Smith, Ulleland, & Streissguth, 1973) and was amplified as a social issue in the context of multiple movements and advocacy efforts, including a growing women's health and reproductive rights movement, the development of advocacy groups, and public awareness related to drinking and driving; policies requiring disclosure of chemicals that might be hazardous to health; lawsuits against the alcohol industry alleging failure to warn about addictive properties of alcohol; and increased publicity about addiction treatment programs (Golden, 2000; Kaskutas, 1995). Research initiatives specific to alcohol and drug use and misuse among women were also launched in the 1970s, which in turn supported and documented the development of gender-specific treatment services (Weichelt, 2008). In the ensuing decades, attention to women's drinking continued to grow in the United States, fueled in part because of concerns about the effects of alcohol or other drug use during pregnancy (Wilsnack, Kristjanson, Wilsnack, & Crosby, 2006), and this attention translated into wide array policy, research, and intervention initiatives. Specific initiatives are documented and disseminated through federally supported organizations such as Substance Abuse and Mental Health Services Administration FASD Center of Excellence (founded in 2001) and the National Registry of Evidence-Based Programs and Practices.

Most women in the United States reduce substantially or cease alcohol use when they know they are pregnant, but some continue to drink "heavily," and many women do not know they are pregnant until 6 or more weeks (Edwards & Werler, 2006; Floyd, Decoufle, & Hungerford, 1999). A study of drinking among pregnant women and women who might become pregnant (based on data measuring alcohol consumption in past 30 days) found that approximately 10.1% of pregnant women consumed alcohol and approximately 1.9% engaged in binge drinking (defined as five or more drinks on one occasion). In this study, prevalence of any alcohol use (54.9%) and binge drinking (12.4%) among women who might become pregnant (e.g., were sexually active with opposite sex partners and not using birth control) was comparable to women of childbearing age overall (Centers for Disease Control, 2004). Estimates of risky drinking are generally higher with the use of time frames greater than 30 days, such as past year drinking (Nayak & Kaskutas, 2004), examination of levels of use throughout pregnancy (Ethen et al., 2009), or measures that account for drink size (Kaskutas & Graves, 2001; Witbrodt, Kaskutas, Korcha, & Armstrong, 2008). National estimates of alcohol consumption during pregnancy are monitored through several mechanisms, including the National Survey on Drug Use and Health (NSDUH), the Center for Disease Control Behavioral Risk Factors Surveillance Survey (BRFSS), and the Pregnancy Risk Assessment Monitoring System (PRAMS; a survey of women who deliver a live-birth infant) (Krulewitch, 2007). Prevalence rates of FAS, which vary depending on methodology used and by subpopulation, range from 0.2 to 2.0 (Floyd, Ebrahim, Tsai, O'Connor, & Sokol, 2006). Efforts to more accurately monitor FAS are reflected in federal policy that mandates state reporting of FAS (APIS [Alcohol Policy Information Systems], n.d.)

Messages related to alcohol consumption during pregnancy in the United States consistently advocate for

abstinence as the only safe choice (Deshpande et al., 2005; Kaskutas, 1995; O'Leary et al., 2007). In 1981, a public health advisory was issued by the U.S. Surgeon General warning that alcohol consumption during pregnancy could cause birth defects. In 2005, this advisory was updated to state that "no amount of alcohol consumption can be considered safe during pregnancy" and to urge abstention from alcohol consumption among pregnant women, women planning to become pregnant, and women of childbearing age not using effective birth control (DHHS, 2005). Consistent with this interpretation of risk, one objective of Healthy People 2010 is to increase abstention during pregnancy from any alcohol use to 94% and from "heavy drinking" to 100% (DHHS, 2000). An unintended consequence of the singular focus on abstinence is that women may have less access to information related to risk reduction; a more comprehensive approach to health messaging might provide information on equivalence of different kinds of alcoholic beverages, the value of reducing consumption at any point during pregnancy, and particularly risky patterns of alcohol consumption for women who are unable or unwilling to abstain from alcohol use (Kaskutas, 2000; Nayak & Kaskutas, 2004).

The emphasis on an abstinence message is reflected in health policy in the United States. Data from the APIS document both federal and state health alcohol policies, including laws pertaining to alcohol and pregnancy (APIS, n.d.). Federal law requires health warnings on alcoholic beverages, including statements that alcohol consumption during pregnancy can cause birth defects. Additional warning signs are required by 23 of 50 states. Some federal and state policies are designed to facilitate access to treatment for pregnant and parenting women; federal "block grants" require treatment priority for pregnant women, and 16 states and the District of Columbia have adopted additional statutes related to priority access for pregnant women or women with minor children (APIS). Although evidence supports the use of public health approaches rather than punitive measures (such as threats of incarceration) for addressing substance misuse during pregnancy (ACOG [American College of Obstetricians and Gynecologists] Committee, 2008; Reynolds, 2007), substantial variation in state-level policy reflects difference, even contradictory stances, in statutes pertaining to alcohol use during pregnancy. Nineteen states have laws related to prenatal alcohol exposure and child abuse/neglect cases: some prohibit and others allow for defining prenatal exposure as evidence of child abuse or neglect. Five states allow for civil commitment of women who misuse alcohol during pregnancy. Six states have legal provisions that prohibit use of medical tests to prosecute women. Given this policy context, a recent statement from the ACOG noted that universal prevention practices, such as screening and referral to treatment for drug and alcohol problems, are important but may be perceived as punitive or threatening to women who may fear being reported (ACOG Committee, 2008). Fear of being reported as a request of screening may discourage some women from seeking prenatal care and, therefore, may have the unintended consequence of increasing health risks for both the woman and fetus.

The United States continues to emphasize an interpretation of risk that is, on the whole, universal and one-dimensional: all women of childbearing age are defined as at-risk and abstinence is the only acceptable message. At the same time, there remain opportunities to explore both universal and targeted prevention efforts (Hankin, 2002) as well as the impact of public health and direct service interventions on rates of alcohol consumption during pregnancy and FAS (Astley, 2004). Emerging research on best practices point to a wide range of interventions that may improve maternal and fetal outcomes (SAMHSA, 2007). For example, brief interventions focused on reducing drinking among high-risk women in prenatal clinics appear to be as effective as abstinence-oriented models in reducing adverse neonatal and maternal outcomes, and may have the advantage of providing health care providers with tools to create an open dialogue about drinking during pregnancy (Armstrong et al., 2009). Research and dialogue about alcohol consumption during pregnancy might also be extended to contextualize the complex personal and environmental issues that may influence, or even eclipse, alcohol use during pregnancy as a social problem. For example, recent research emphasizes the complexity of environmental and individual factors, such as SES and violence associated with alcohol use during pregnancy, in adverse fetal and maternal outcomes (Flynn & Chermack, 2008; Havens, Simmons, Shannon, & Hansen, 2008; Haynes, Dunnagan, & Christopher, 2003; Testa et al., 2003). Evaluating and addressing unintended consequences of punitive legal statutes remains a substantial challenge in both research and policy development, such as how such policies may intersect with racial disparities in the impact of policies related to substance abuse (Burnett, Bailey, & Toldson, 2006).

The United Kingdom

The United Kingdom (UK) has been experiencing an epidemic of alcohol use-related problems in recent decades, including increased consumption and problems among younger women (Plant, 2008). Approximately 90% of women in Britain consume alcoholic drinks at least occasionally (Office for National Statistics, 2005). A survey of women in England, Scotland, and Wales revealed that 8% of woman aged 18–24 years had consumed at least 35 units (roughly equivalent to a bottle of spirits) of alcohol in the past week (Plant & Plant, 2001). Over the period 2000–2002, the Office for National Statistics (2004) reported that 26% of women aged 16–24 years were heavy drinkers. Young people who engage in unprotected sex are very likely to be "heavy drinkers" (Alcohol Concern, 2002). The UK has the highest rate of teenage pregnancy in Europe (Office for National Statistics, 2005). Of particular concern are the levels of drinking and unplanned pregnancies for young women. Approximately 84% of UK mothers under the age of 20 years report that their pregnancy was unplanned (Dex & Josh, 2005). Therefore, at a highly vulnerable time for the fetus, the mother may still be drinking at pre-pregnancy level.

It has recently been suggested by the UK's Chief Medical Officer that 6,000 babies might be born each year in the UK with FAS (Donaldson, 2009). In addition, over 7,000 women are reportedly admitted to hospital annually in England for miscarriages caused by their drinking (Donaldson, 2009). The fact that maternal drinking during pregnancy is associated with fetal damage has long been noted in the UK (Plant, 1985); however, the prevalence and incidence of ARBD and developmental disabilities in the UK is unclear.

A number of large-scale UK prospective studies were conducted over 20 years ago (Barrison & Wright, 1984; Florey, Taylor, Bolumar, Kaminski, & Olsen, 1992; Plant, 1985; Sulaiman, Florey, Taylor, & Ogston, 1988). Most of these concluded that adverse effects are not associated with low-level consumption. UK researchers had also contributed to the understanding of how heavy maternal drinking, together with other factors such as the use of tobacco, illicit drugs, prescribed medications and caffeine, as well as maternal age, past obstetric history, and SES, is associated with birth defects (Wright et al., 1983). The interest and tension between the findings related to varying levels of use and cofactors continues today. A recent evidence review undertaken by researchers at the National Perinatal Epidemiology Unit, University of Oxford, found no convincing evidence of adverse effects of prenatal alcohol exposure at low-to-moderate levels of exposure, yet noted that weaknesses in the evidence precluded the conclusion that drinking at these levels during pregnancy is safe (Henderson, Gray, et al., 2007). It can be said that, until recently, there has been an ongoing interest in the UK in a possible safe low level of drinking in pregnancy, and less attention to impact of significant in-utero exposure to alcohol.

This tension in the field of research has carried over into public messages related to drinking during pregnancy. Conflicting guidelines and advice have been produced by a number of government and medical agencies. The British Medical Association (British Medical Association, 2008) currently advises that: "the only sensible message for women who are pregnant or planning a pregnancy must be complete abstinence from alcohol" (p. 31); yet, the guidelines from the National Institute for Clinical Excellence (NICE) state that women should avoid drinking during the first 3 months of pregnancy. However, they also state that: "If women choose to drink alcohol during pregnancy they should be advised to drink no more than one to two UK units once or twice a week . . . at this low level there is no evidence of harm to the unborn baby" (NICE, 2008, p. 18). Discussions about preferred public health messages remain characterized by controversy. Insufficient training of health professionals, inconsistency in guidelines, and the at times reductionist messages "just don't drink" raise a number of problems.

In summary, the subject of harm due to "heavy" maternal drinking has received far less scientific and public attention in the UK than it has in North America. Epidemiological research in the UK is necessary to provide accurate information on drinking in pregnancy, obtain rates of FASD, and guide future service provision. Confusing guidelines and recent sensationalized media reports have raised concern on this topic. Action is needed to address the rise in risky drinking by women in the UK. Rising "heavy drinking" by young British women, in particular, suggests that the number of infants born with ARBD may be increasing. Prevention efforts need to acknowledge that the majority of women are pregnant for at least a month and often, particularly if they are teenagers, much longer, before they realize they are pregnant. Although prevention of drinking during pregnancy and the lifelong support needs of those with FASD are becoming viewed as an area of importance in the UK, funding has not been forthcoming from government or other health agencies. These and other issues need to be addressed before the UK can prevent alcohol-exposed pregnancies and provide the care needed for children harmed by prenatal alcohol exposure.

DISCUSSION

The country-specific reviews point to both differences and commonalities across countries in terms of research, policy, and practice responses. Researchers from China, the UK, Uganda, and Uruguay all described common issues: the need for prevalence data about the extent of the problem, taking into account the complexities of gathering this information; the need for access to professional training; and differing opportunities for brief intervention and treatment. Researchers from Canada, the UK, and the United States emphasized the importance of continuing to develop and disseminate effective interventions, while simultaneously attending actively to interpretations of risk and possible unintended consequences of policy, practice, or media messages that may stigmatize women.

Limitations

This review project has several limitations. The project was based on a convenience sample of researchers and countries affiliated with the GENACIS project, with an expressed interest in this area. Consequently, the sample of countries used for this project is not representative of countries worldwide, or even the nearly 40 countries participating in the GENACIS project. The country reviews summarized here were not systematic but were framed by broad questions of interest. Furthermore, although individual researchers consulted with colleagues in their respective countries, the scope of this endeavor in the context of a few researchers with limited resources means that the findings may be biased by the views of the individuals who provided leadership for their country. In spite of these limitations, this review represents a preliminary effort to examine some of the contexts and consequences associated with different interpretations of risks for FASD across countries that may provoke future dialogue and collaboration between international groups of researchers and practitioners.

Construction of Risk and Attention to Women's Drinking. In general, we found considerable differences across countries in the degree to which the issue of drinking

during pregnancy has been minimized or amplified in relation to prevailing attention to women's drinking. In Uganda, China, and Uruguay, drinking among women has been circumscribed by traditional gender roles. Although the reviews suggest that patterns of drinking and norms may be changing along with rapid economic and social change, possible alcohol use-related problems among women are generally minimized. As a result, formalized prevention or intervention efforts are largely absent or inconsistent in these countries. In other countries, such as Canada and the United States, alcohol consumption among pregnant women is constructed as an important social problem, and in addition to various efforts to develop systems for monitoring alcohol consumption during pregnancy and accurate estimates of FASD, substantial efforts have been made to address risk for FASD both nationally and regionally.

Construction of Risk and Disapproval of Women's Drinking. Considerable differences were found both between and within countries in the social construction of drinking during pregnancy as a problem, and in the interpretation of health risks associated with this behavior, including risks for FASD. Consistent with earlier findings that increased attention to women's alcohol use may be accompanied by social disapproval and employment of coercive strategies (Wilsnack et al., 2005), some intervention efforts, for example, in some regions of the United States, appear to emphasize punitive measures while other regions maintain a strong emphasis on public health interventions and mobilization of resources in support of women with alcohol problems. In Canada, concerted effort has been made to facilitate a women-centered response to problems of "heavy drinking" during pregnancy, emphasizing the link between mother and child health, and the importance of access to needed support resources. The issue of stigmatization of drinking among women, particularly pregnant or parenting women, was echoed throughout different countries whether or not these messages were formalized in policy, programs, or prevention campaigns. Other literature affirms that stigma and lack of access to culturally appropriate gender-specific services for women with alcohol and other drug use-related problems remains an issue internationally, and is particularly problematic in developing countries (Wechsberg, Luseno, & Ellerson, 2008). The overarching "contest" between framing FASD risk as a health issue and as a moral failure of individual mothers underlies some of the descriptions of cultural, policy, and practice described in the country-specific reviews, and is also reflected in other studies and debates in literature related to alcohol consumption during pregnancy (Armstrong, 1998, 2005; Connolly-Ahern & Broadway, 2008; Constantinou, 2005; Kaskutas, 1995; Whitehall, 2007).

Construction of Risk at Differing Levels of Drinking as Interpreted in Differing Sociocultural Contexts. Interpretation of risk, as reflected in messaging about alcohol use during pregnancy, varied between countries and, within countries, over time. The reviews revealed differences in contextual factors (e.g., economic, political, or ideological) that influenced interpretation of risk and subsequent research, prevention, and intervention efforts. This is consistent with the modest literature that has explored these issues to date. In one of the few studies that explicitly examined the development of specific policy, health warnings about drinking during pregnancy, Kaskutas (1995) documented the interplay between scientific knowledge and social climate in the interpretation of risk for FASD. Construction of risk and associated policies and messages change over time, and these changes are not always based on systematic reviews of science (O'Leary et al., 2007). Indeed, translation of evidence also seems to vary between countries. For example, systematic reviews published in the UK affirmed that binge drinking may be associated with adverse effects on neuro-developmental outcomes (Henderson, Kesmodel, & Gray, 2007), but that the effects of low-to-moderate drinking on pregnancy outcomes were inconclusive (Henderson, Gray, et al., 2007). By contrast, the United States interpretation of the available research generally concludes that it remains best to err on the side of advising abstinence during pregnancy, even from moderate drinking (Gunzerath, Faden, Zakhari, & Warren, 2004; Jacobson & Jacobson, 1999). Indeed, for all countries, it remains a challenge to balance the complexity of risk at different levels of exposure, with the need for clear public health messages about the risk of alcohol use during pregnancy given its teratogenic effects. At the same time, experts caution against a reductionist approach to considering FASD risk that correlates with other factors such as SES, and against overstating findings of studies that may not adequately control for issues of dose or timing (Abel, 2009).

Construction of Risk and Implications for Preventative Actions. The different interpretations of risk translate to differences in foci for intervention, such as a greater emphasis on universal messages to caution against drinking during pregnancy among all pregnant women (and in the case of the United States, women who might become pregnant) compared with an emphasis on reduction or cessation of use among women at high risk of "heavier drinking" during pregnancy. Different interpretations of risk also seem to impact the degree to which FASD prevention is perceived as a problem at all, perceived as a women's health issue, (linked to, or in conflict with, FASD as a child health issue), linked to the addiction treatment response, or linked to overall alcohol policy. Interpretation of risk may also influence the degree to which policy and practice responses are inclusive of diverse subpopulations at risk or disproportionately target marginalized groups in terms of negative legal sanctions.

CONCLUSION

Findings from the reviews point to the importance of gathering information internationally, facilitating cross-cultural discourse, and exchanging lessons learned across borders. There are several specific directions in this regard that surfaced in these reviews and are reflected in the literature. First, the findings from the reviews underscore the value of effective knowledge translation in bridging gaps between research, practice, and policy formation.

Efforts to exchange knowledge among countries in the areas of FASD monitoring, prevention, and intervention are important (Riley et al., 2007). Promising approaches to knowledge translation are context-specific and designed to respect and involve participation by multiple sectors (researchers, practitioners, health system planners, and community-based advocates) (Canadian Health Services Research Foundation, n.d.; WHO, n.d.). Second, it is apparent that it may be important to facilitate explicit discourse about the influence of cultural and social contexts on interpretations of risk in different countries at different times, the relative utility of these different interpretations, possible unintended consequences of these interpretations, and how researchers and health care providers may influence "framing" of messages. Third, the lessons from countries, such as Canada, highlight the utility of emphasizing public health frameworks, including harm reduction strategies (Leslie & Roberts, 2004). Identifying how models that have demonstrated success in some countries may be evaluated for adaptation in developing countries would be consistent with emerging recommendations from the WHO for addressing alcohol use-related problems, which emphasize public health and harm reduction frameworks (WHO, 2007) as well as initiatives that reach "vulnerable groups, such as young people and pregnant women" (WHO, 2008, p. 3). Even in countries, such as the United States, where harm reduction frameworks are controversial and not widely adopted, studies still affirm the utility of interventions that encourage reduction of use among pregnant women who still consume alcohol (Armstrong et al., 2009). Fourth, the findings from the reviews point to the advantages of building linkages to researchers, clinicians, health, treatment, and family welfare systems. For example, countries, such as Uganda and China, have opportunities to link alcohol-related problems among women to existing public health efforts to prevent and address HIV and violence among women.

Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the article.

RÉSUMÉ

Compréhension du risque et réponses divergentes:Perspectives sur la construction du risque de l'ETCAF dans six pays

Les conceptualisations du risque lié à la consommation d'alcool chez les femmes enceintes et les réponses concomitantes concernant la prévention de l'ensemble des troubles causés par l'alcoolisation fœtale (ETCAF) sont examinées dans six pays: les États-Unis, le Canada, le Royaume-Uni, l'Ouganda, l'Uruguay et la Chine. Des différences importantes ont été soulignées dans la façon dont les risques sont conceptualisés dans ces pays et dans les facteurs contextuels qui influent sur la recherche, la prévention et les efforts d'intervention. Des différences de conceptualisation étaient également apparentes au sein des pays. Il y avait aussi des différences concernant le degré avec lequel la question de la consommation durant la grossesse a été minimisée ou amplifiée, et si et comment ces réponses sont liées aux traitements ou à d'autres interventions de santé publique.

RESUMEN

Consideraciones sobre riesgos y diferentes respuestas: Perspectivas en la construcción del riesgo de los desordenes del SFA en seis países

Se estudiaron las conceptualizaciones del riesgo relacionadas con el uso del alcohol de las mujeres durante el embarazo, y las respuestas correspondientes para prevenir los desordenes del síndrome feto alcohólico (DSFA), en seis países: Estados Unidos, Canadá, el Reino Unido, Uganda, Uruguay, y China. Se encontraron diferencias importantes en cómo los riesgos fueron conceptualizados entre los países y en los factores del contexto que influencian la investigación, la prevención, y los esfuerzos de las intervenciones. Fueron evidentes diferencias de conceptualizaciones entre los países. Las diferencias también existieron en relación a si el consumo en el embarazo se había reducido al mínimo o si el mismo había aumentado, y si habían habido o no respuestas ligadas al tratamiento u otras intervenciones de la salud publica.

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GLOSSARY

Alcohol use-related birth defects (ARBD): A diagnostic category within the larger umbrella term Fetal Alcohol Spectrum Disorders that includes confirmed maternal alcohol exposure and one or more congenital defects, including malformation of the heart, bone, kidney, vision, or hearing system.

Alcohol use-related neurodevelopmental disorder (ARND): A diagnostic category within the larger umbrella term Fetal Alcohol Spectrum Disorders that includes confirmed maternal alcohol exposure and central nervous system neurodevelopmental abnormalities and/or complex pattern of behavior or cognitive deficits.

Block grants: A sum of money granted by the federal government to regional (e.g., state) government that includes general provisions about how funds may be spent.

Burden of disease: Impact of a health problem based on cost, morbidity, mortality or other indicators.

Construction of risk: The process by which prevailing social values, norms, and beliefs inform how social problems are defined and addressed.

Determinants of health: The WHO, governments, and individual researchers have identified social, structural, genetic, biological, and environmental determinants that act and interact to affect health, income and social status, employment, education, social support networks, physical environments, healthy child development, personal health practices and coping skills, health services, biology and genetic endowment, **gender,** and culture.

Fetal alcohol ethyl esters (FAEES): A biomarker (a substance used as an indicator of a biological state) to detect prenatal alcohol exposure in meconium.

Fetal alcohol syndrome (FAS): A diagnostic category within the larger umbrella term Fetal Alcohol Spectrum Disorders that includes confirmed maternal alcohol exposure combined with characteristic pattern of

facial features, growth problems, and neurodevelopmental abnormalities.

Meconium: A baby's first stool.

Phosphatidylethanol (PEth): A biomarker that is highly correlated to alcohol intake; diagnostic sensitivity using PEth appears to be higher than that for previously established biomarkers for alcohol intake.

Postpartum: The time period after childbirth.

Preconception: The time period before becoming pregnant.

Teratogen: An agent that may interfere with the development of a fetus, which may cause birth defects.

Women-centered: An approach to the delivery of services and health policy that attends specifically to the needs and interests of women, as opposed to a generic approach.

REFERENCES

Abel, E. L. (2005). Paternal contribution to fetal alcohol syndrome. *Addiction Biology, 9*(2), 127–133.

Abel, E. L. (2009). Fetal alcohol syndrome: Same old, same old. *Addiction, 104*, 1274–1275.

ACOG (American College of Obstetricians and Gynecologists) Committee. (2008). At-risk drinking and illicit drug use: Ethical issues in obstetric and gynecologic practice. ACOG Committee Opinion No. 422. *Obstetrics and Gynecology, 112*, 1149–1160.

ActNow BC. (2009). Drinking alcohol during pregnancy. Retrieved April 6, 2009, from http://www.actnowbc.ca/pregnant_women/drinking_alcohol_during_pregnancy

Ahmad, N., Flight, F., Singh, V.-A. S., Poole, N., Dell, C. A. (2008). *Canadian addiction survey (CAS): Focus on gender*. Ottawa, ON: Health Canada.

Alberta Alcohol and Drug Abuse Commission (AADAC). (2003). *The help guide for professionals working with women who use substances: Screening.Intervention Referral*. Edmonton, AB: Alberta Alcohol and Drug Abuse Commission.

Alberta Health Services. (2009). Alcohol and pregnancy: Preventing FASD. Retrieved April 6, 2009, from http://www.aadac.com/547_1222.asp

Alcohol Concern. (2002). *Alcohol and teenage pregnancy*. London: Author.

APIS (Alcohol Policy Information Systems). (n.d.). Alcohol and pregnancy (topic). Retrieved February 1, 2009, from http://alcoholpolicy.niaaa.nih.gov/

Armstrong, E. M. (1998). Diagnosing moral disorder: The discovery and evolution of fetal alcohol syntrome. *Social Science in Medicine, 47*(12), 2025–2042.

Armstrong, E. M. (2003). *Conceiving risk, bearing responsibility: Fetal alcohol syndrome & the diagnosis of moral disorder*. Baltimore, MD: Johns Hopkins University Press.

Armstrong, E. M. (2005). Drug and aclohol use during pregnancy: We need to protect, not punish, women. *Women's Health Issues, 15*, 45–47.

Armstrong, M. A., Kaskutas, L. A., Witbrodt, J., Taillac, C., Hung, Y.-Y., Osejo, V. M., & Escobar, G. J. (2009). Using drink size to talk about drinking during pregnancy: A randomized clinical trial of early start plus. *Social Work in Health Care, 48*, 90–103.

Astley, S. J. (2004). Fetal alcohol syndrome prevention in Washington State: Evidence of success. *Pediatric and Perintal Epidemiology, 18*, 344–351.

Barrison, I. G., & Wright, J. T. (1984). Moderate drinking during pregnancy and foetal outcome. *Alcohol and Alcoholism, 19*, 167–172.

Barry, K., Caetano, P., Chang, G., DeJoseph, M., Miller, L., O'Connor, M., & Leeks, K. (2009). *Reducing alcohol-exposed pregnancies: A report of the national task force on fetal alcohol syndrome and fetal alcohol effect*. Atlanta, GA: Centers for Disease Control and Prevention.

Best Start. (2002). *Reducing the impact: Working with pregnant women who live in difficult life situations*. Toronto, ON: Best Start—Ontario's Maternal, Newborn and Early Child Development Resource Centre.

Best Start. (2009). Resources: Alcohol & pregnancy. Retrieved April 6, 2009, from http://www.bcphp.ca//sites/bcrcp/files/AnnualReport/BCPHP_2007AR.pdf

Bloomfield, K., Gmel, G., & Wilsnack, S. C. (2006). Introduction to special issue "Gender, culture and alcohol problems: A multinational study." *Alcohol & Alcoholism, 44*(1 Suppl.), i3–i7.

Boyd, S. C., & Marcellus, L. (2007). *With child: Substance use during pregnancy—A woman-centred approach*. Halifax, NS: Fernwood Publishing.

British Columbia Centre of Excellence for Women's Health. (2009a). Healthy choices in pregnancy. Retrieved April 6, 2009, from http://www.hcip-bc.org/

British Columbia Centre of Excellence for Women's Health. (2009b). The source: Women's health data directory. Retrieved April 6, 2009, from www.womenshealthdata.ca

British Medical Association. (2008). *Alcohol misuse: Tackling the UK epidemic*. London: Author.

Burnett, A. L., Bailey, U. J., & Toldson, M. (2006). *Blue Ribbon Commission on Racial Disparities in Substance Abuse Policy: Report andrecommendations*. Washington, DC: Blue Ribbon Commission on Racial Disparities in Substance Abuse Policies.

Calhoun, F., & Warren, K. R. (2007). Fetal alcohol syndrome: Historical perspectives. *Neuroscience and Biobehavioral Reviews, 31*, 168–171.

Campbell, N. D. (2000). *Using women: Gender, drug policy and social justice*. New York, NY: Routledge.

Canadian Health Services Research Foundation. (n.d.). Knoweldge exchange. Retrieved April 22, 2009, from http://www.chsrf.ca/

Centers for Disease Control (CDC). (2004). Alcohol consumption among women who are pregnant or who might become pregnant—United States, 2002. *Morbidity and Mortality Weekly Report, 50*(50), 1178–1181.

Christianson, A. (2009). Birth defects. Retrieved April 1, 2009, from http://discuss.prb.org/content/interview/detail/3116/

Cochrane, J., Chen, H., Conigrave, K., & Hao, W. (2003). Alcohol use in China. *Alcohol & Alcoholism, 38*(6), 537–542.

Connolly-Ahern, C., & Broadway, C. S. (2008). "To booze or not to booze?" Newpaper coverage of fetal alcohol spectrum disorders. *Science Communication, 29*(3), 362–385.

Constantinou, A. (2005). Alcohol and pregnancy: Experts warn that inconsistent messages are causing harm. *Drugs and Alcohol Today, 5*(4), 41–44.

Derauf, C., Katz, A., & Easa, D. (2003). Agreement between maternal self-reported ethanol intake and tobacco use during pregnancy and meconium assays for fatty acid etil esters and cotinine. *American Journal of Epidemioly, 158*, 705–709.

Deshpande, S., Basil, M., Basford, L., Thorpe, K., Piquette-Tomei, N., Droessler, J., Bureau, A. (2005). Promoting alcohol abstinence among pregnant women: Potential social change strategies. *Health Marketing Quarterly, 23*(2), 45–67.

Dex, S., & Josh, H. (Eds.). (2005). *Children of the 21st century: From birth to nine months*. Bristol: Policy Press.

DHHS (Department of Health and Human Services). (2000). *Healthy people 2010: Understanding and improving health* (2nd ed.). Washington, DC: U.S. Government Printing Office. Retrieved April 25, 2009, from http://www.healthypeople.gov/Implementation/compdocs.htm

DHHS. (2005). *U.S. Surgeon General releases advisory on alcohol use in pregnancy*. Washington, DC: U.S. Department of Health and Human Services.

Disease Control Priorities Project. (2006). Burden of disease in China in 2001. Retrieved October 10, 2008, from http://www.dcp2.org/file/53/BurdenDiseaseChina.pdf

Donaldson, L. (2009). Annual report of the chief medical officer. Retrieved November 10, 2009, from http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/AnnualReports/DH_096206

Edwards, E. M., & Werler, M. M. (2006). Alcohol consumption and time to recognition of pregnancy. *Maternal Hild Health Journal, 10*, 467–472.

Ethen, M. K., Ramadhani, T. A., Scheuerle, A. E., Canfield, M. A., Wyszynski, D. F., Druschel, C. M., et al. (2009). Alcohol consumption by women before and during pregnancy. *Maternal and Child Health, 13*, 274–285.

Fast, D. K., Conry, J., & Loock, C. A. (1999). Identifying fetal alcohol syndrome among youth in the criminal justice system. *Journal of Developmental and Behavioral Pediatrics (JDBP), 20*(5), 370–372.

Fisher, J. C., Bang, H., & Kapiga, S. H. (2007). The association between HIV infection and alcohol use: A systematic review and meta-analysis of African studies. *Sexually Transmitted Diseases, 34*(11), 856–863.

Fisher, J. C., Cook, P. A., Sam, N., &Kapiga, S. H. (2008). Patterns of alcohol use, problem drinking, and HIV infection among high-risk African women. *Sexually Transmitted Diseases, 35*(6), 537–544.

Florey, C. d. V., Taylor, D., Bolumar, F., Kaminski, M., & Olsen, J. (1992). EUROMAC—a European concerted action: Maternal alcohol consumption and its relation to the outcome of pregnancy and child development at 18 months. *International Journal of Epidemiology, 21*(1 Suppl.), S40–S44.

Floyd, R. L., Decoufle, P., & Hungerford, D. W. (1999). Alcohol use prior to pregnancy recognition. *American Journal of Preventive Medicine, 17*, 101–107.

Floyd, R. L., Ebrahim, S., Tsai, J., O'Connor, M., & Sokol, R. (2006). Strategies to reduce alcohol-exposed pregnancies. *Maternal Child Health Journal, 10*, S149–S151.

Flynn, H. A., & Chermack, S. T. (2008). Prenatal alcohol use: The role of lifetime problems with alcohol, drugs, depression, and violence. *Journal of Studies on Alcohol and Drugs, 69*, 500–509.

Fuchs, D., Burnside, L., Marchenski, S., & Mudry, A. (2005). *Children with disabilities receiving services from child welfare agencies in Manitoba*. Toronto, ON: Centre of Excellence for Child Welfare.

Golden, J. (2000). "A Tempast in a Cocktail Glass": Mothers, alcohol, and television, 1977–1996. *Journal of Health Politics, Policy and Law, 25*(3), 473–498.

Golden, J. (2005). *Message in a bottle: The making of fetal alcohol syndrome*. Cambridge, MA: Harvard University Press.

Gomez, L. E. (1997). *Misconceiving mothers: Legislators, prosecutors, and the politics of prenatal drug exposure*. Philadelphia, PA: Temple University Press.

Greaves, L., Pederson, A., Varcoe, C., Poole, N., Morrow, M., Johnson, J. et al. (2004). Mothering under duress: Women caught in a web of discourses. *Journal of the Association for Research on Mothering, 6*(1), 16–27.

Greaves, L., & Poole, N. (2007). Pregnancy, mothering and substance use: Toward a balanced response. In N. Poole & L. Greaves (Eds.), *Highs and lows: Canadian perspectives on women and substance use* (pp. 219–225). Toronto, ON: Centre for Addiction and Mental Health.

Greaves, L., Varcoe, C., Poole, N., Morrow, M., Johnson, J., Pederson, A., et al. (2002). *A motherhood issue: Discourses on mothering under duress*. Ottawa, ON: Status of Women Canada.

Gunzerath, L., Faden, V., Zakhari, S., & Warren, K. (2004). National institute of alcohol abuse and alcoholism report on moderate drinking. *Alcoholism Clinical & Experimental Research, 28*, 829–847.

Hankin, J. (2002). Fetal alcohol syndrome prevention research. *Alcohol Research & Health, 26*(1), 58–65.

Hansen, A., & Gunter, B. (2007). Constructing public and political discourse on alcohol issues: Towards a framework for analysis. *Alcohol & Alcoholism, 42*(2), 150–157.

Hao, W., Chen, H., & Su, Z. (2005). China: Alcohol today. *Addiction, 100*(6), 737–741.

Hao, W., & Su, Z., Chen, H. (2007). Drinking and drinking-related problems in China. *Nihon Arukoru Yakubutsu Igakkai Zasshi, 42*(6), 595–601.

Hao, W., Su, Z., Liu, B., Zhang, K., Yang, H., Chen, S., et al. (2004). Drinking and drinking patterns and health status in the general population of five areas of China. *Alcohol & Alcoholism, 39*(1), 43–52.

Hao, W., Young, D. S., & He, M. (1995). Alcohol drinking in China: Present, future and policy. *Chinese Journal of Clinical Psychology, 3*, 243–248.

Hao, W., Young, D., Li, L., Xiao, S., Tu, J., Shen, H., et al. (1995). Psychoactive substance use in three sites in China: Gender differences and related factors. *Addiction, 90*, 1503–1515.

Havens, J. R., Simmons, L. A., Shannon, L. M., & Hansen, W. F. (2008). Factors associated with substance use during pregnancy: Results from a national sample. *Drug and Alcohol Dependence, 99*, 89–95.

Haynes, G., Dunnagan, T., & Christopher, S. (2003). Determinants of alcohol use in pregnant women at risk for alcohol consumption. *Neurotoxicology and Teratology, 25*, 659–666.

Henderson, J., Gray, R., & Brocklehurst, P. (2007). Systematic review of effects of low-moderate prenatal alcohol exposure on pregnancy outcome. *BJOG: An International Journal of Obstetrics and Gynaecology, 114*(3), 243–252.

Henderson, J., Kesmodel, U., & Gray, R. (2007). Systematic review of the fetal effects of prenatal binge drinking. *Journal of Epidemiology and Community Health, 61*(12), 1069–1073.

Hong, Y., Li, X., Fang, X., & Zhao, R. (2007). Correlates of suicidal ideation and attempt among female sex workers in China. *Health Care Women International, 28*(5), 490–505.

Humphries, D. (1999). *Crack mothers: Pregnancy, drugs, and the media*. Columbus, OH: Ohio State University Press.

Institute of Medicine. (1996). *Fetal alcohol syndrome: Diagnosis, epidemiology, prevention, and treatment*. Washington, DC: National Academy Press.

International Center for Alcohol Policy. (2007). International guidelines on drinking and pregnancy. Retrieved February 11, 2009, from www.icap.org

Jacobson, J. L., & Jacobson, S. W. (1999). Drinking moderately and pregnancy. *Alcohol Research & Health, 23*(1), 25–30.

Jones, K. L., Smith, D. W., Ulleland, C. H., & Streissguth, A. P. (1973). Pattern of malformation in offspring of chronic alcoholic mothers. *Lancet, 1*, 1267–1271.

Junta Nacional de Drogas (JND). (2006). Cuarta encuesta nacional en hogares sobre consumo de drogas en población general [Fourth national household survey on drug use in the general population]. Retrieved April 21, 2009, from www.infodrogas.gub.uy

Kafuko, A., & Bukuluki, P. (2008). *Qualitative research in Uganda on knowledge, attitudes, and practices concerning alcohol*. Kampala: Youth Empowered and Healthy (YEAH).

Kan, D. C., Tsai, F. J., Peng, C. T., & Tsai, C. H. (1998). Fetal alcohol syndrome with Arnold-Chiari malformation: Report of one case. *Zhonghua Min Guo Xiao Er Ke Yi Xue Hui Za Zhi, 39*(2), 116–118.

Kaskutas, L. A. (1995). Interpretations of risk: The use of scientific information in the development of the alcohol warning label policy. *International Journal of the Addictions, 30*(12), 1519–1548.

Kaskutas, L. A. (2000). Understanding drinking during pregnancy among urban American Indians and African Americans: Health messages, risk beliefs, and how we measure consumption. *Alcoholism: Clinical and Experimental Reseach, 24*(8), 1241–1250.

Kaskutas, L. A., & Graves, K. L. (2001). Pre-pregnancy drinking: How size affects risk assessment. *Addiction, 96*, 1199–1209.

Knupfer, G. (1991). Abstaining for foetal health: The fiction that even light drinking is dangerous. *British Journal of Addiction, 86*, 1063–1073.

Krulewitch, C. J. (2007). Alcohol consumption during pregnancy. *Annual Review of Nursing Research, 23*, 101–134.

Leslie, M., & Roberts, G. (2004). *Nurturing change: Working effectively with high-risk women and affected children to prevent and reduce harms associated with FASD*. Toronto: Mothercraft/Breaking the Cycle and Canadian Centre on Substance Abuse.

Lin, D., Li, X., Yang, H., Fang, X., Stanton, B., Chen, X., et al. (2005). Alcohol intoxication and sexual risk behaviors among rural-to-urban migrants in China. *Drug and Alcohol Dependence, 79*(1), 103–112.

Lukas, S. E., Penetar, D., Berko, J., Vicens, L., Palmer, C., Mallya, G., et al. (2005). An extract of the Chinese herbal root kudzu reduces alcohol drinking by heavy drinkers in a naturalistic setting. *Alcoholism: Clinical & Experimental Research, 29*(5), 756–762.

Magri, R., Hutson, J., Miguez, H., Suarez, H., Menendez, A., Parodi, V., et al. (2007). Advances in the determination of alcohol and other drug consumption during pregnancy: A study of 900 births in Montevideo, Uruguay. *Contemporary Drug Problems, 34*, 445–476.

Magri, R., Miguez, H., Jones, J. H. S., Rios, R., & Suárez, H., Bustos, R., et al. (in progress). *Drug consumption during pregnancy: Second study in a maternity hospital in Uruguay—survey and two biomarkers: Meconium and umbilical cord tissue*. Manuscript submitted for publication.

Magri, R., Míguez, H., Parodi, V., Hutson, J., Suarez, H., Menéndez, A., et al. (2007). Consumo de alcohol y otras drogas en embarazadas [Alcohol and other drug use among pregnant women]. *Archives of Pediatrics of Uruguay, 78*(2): 59–69.

Mathers, C. D., Lopez, A. D., & Murray, C. J. L. (Eds.). (2006). *The burden of disease and mortality by condition: Data, methods, and results for 2001*. New York: Oxford University Press.

May, P. A. (1995). A multiple-level, comprehensive approach to the prevention of fetal alcohol syndrome (FAS) and other alcohol-related birth defects (ARBD). *International Journal of the Addictions, 30*(12), 1549–1602.

May, P. A., Gossage, J. P., Brooke, L. E., Snell, C. L., Marais, A.-S., Hendricks, L. S. et al. (2005). Maternal risk factors for fetal alcohol syndrome in the Western Cape Province of South Africa: A population-based study. *American Journal of Public Health, 95*(7), 1190–1199.

Míguez, H. (2004). Epidemiologia de la alcoholización juvenile en Argentina. Acta Psiquiátrica Y Psicológica de América Latina [Epidemiology of alcohol use among juveniles in Argentina]. *Journal of Psychiatry and Psychology of Latin America, 50*(1), 43–47.

Moore, C., Jones, J., Lewis, D., & Buchi, K. (2003). Prevalence of fatty acid ethyl esters in meconium specimens. *Clinical Chemistry, 49*(1), 133–136.

Motz, M., Leslie, M., Pepler, D. J., Moore, T. E., & Freeman, P. A. (2006). Breaking the cycle: Measures of progress 1995–2005. *Journal of FAS International, Special Supplement, 4*, e22.

Namagembe, I., Jackson, L. W., Zullo, M. D., Frank, S. H., Byamugisha, J. K., & Sethi, A. K. (2010). Consumption of alcoholic beverages among pregnant urban Ugandan women. *Maternal and Child Health Journal, 14*(4), 492–500.

National Institute for Health and Clinical Excellence. (2008). *Antenatal care: Routine care for the healthy pregnant woman (Nice Clinical Guideline 62)*. Retrieved November 14, 2009, from http://www.nice.org.uk/nicemedia/pdf/CG062NICEguideline.pdf

Nayak, M. B., & Kaskutas, L. A. (2004). Risky drinking and alcohol use pattens in a national sample of women of childbearing age. *Addiction, 99*, 1393–1402.

Office for National Statistics. (2004). *Results from the 2003 general household survey*. London: Author.

Office for National Statistics. (2005). *Teenage conception statistics for England 1998–2005*. London: Office for National Statistics, Teen Pregnancy Unit.

O'Leary, C. M., Heuzenroeder, L., Elliott, E. J., & Bower, C. (2007). A review of policies on alcohol use during pregnancy in Australia and other English-speaking countries, 2006. *Medical Journal of Australia, 186*(9), 466–471.

Ostrea, E. J., Hernandez, J., Bielawski, D., Kan, J. M, Leonardo, G. M., Abela, M. B., et al. (2006). Fatty acid ethyl esters in meconium: Are they biomarkers of fetal alcohol exposure and effect? *Alcoholism: Clinical and Experimental Research, 30*(7), 1152–1159.

Parkes, T., Poole, N., Salmon, A., Greaves, L., & Urquhart, C. (2008). *Double exposure: A better practices review on alcohol interventions in pregnancy*. Vancouver, BC: British Columbia Centre of Excellence for Women's Health.

Plant, M. L. (1985). *Women, drinking and pregnancy*. London: Tavistock.

Plant, M. L. (2008). Women and alcohol: Issues and responses. *Journal of Substance Use, 13*(3), 155–191.

Plant, M. L., & Plant, M. A. (2001). Heavy drinking by young British women gives cause for concern. *British Medical Journal, 323*, 1183.

Poole, N. (2008). *Fetal alcohol spectrum disorder (FASD) prevention: Canadian perspectives*. Ottawa, ON: Public Health Agency of Canada.

Poole, N., & Greaves, L. (2009). Mother and child reunion: Achieving balance in policies affecting substance-using mothers and their children? *Women's Health and Urban Life, 8*(1), 54–66.

Population Reference Bureau (PRB). (2009). 2008 world population data sheet. Retrieved April 1, 2009, from http://www.prb.org/pdf08/08WPDS_Eng.pdf

Pradeepkumar, V. K., Tan, K. W., & Ivy, N. G. (1996). Is "herbal health tonic" safe in pregnancy: Fetal alcohol syndrome revisited. *Australian and New Zealand Journal of Obstetrics and Gynaecology, 36*(4), 420–423.

Reid, C., Greaves, L., & Poole, N. (2008). Good, bad, thwarted or addicted? Discourses of substance-using mothers. *Critical Social Policy, 28*(2), 211–234.

Ren, A., Zhang, L., Hao, L., Li, Z., & Tian, Y. (2007). Comparison of blood folate levels among pregnant Chinese women in areas with high and low prevalence of neural tube defects. *Public Health Nutrition, 10*(8), 762–768.

Reynolds, M. E. (2007). Under the influence: Policy approaches to substance abuse during pregnancy. *Praxis, 7*, 16–25.

Riley, E. P., Guerri, C., Calhoun, F., Charness, M. E., Foroud, T. M., Li, T.-K., & Warren, K. R. (2007). Proceedings of an international workshop on fetal alcohol syndrome. *Alcoholism: Clinical & Experimental Research, 27*(1), 118–135.

Roberts, B., Ocaka, K. F., Browne, J., Oyok, T., & Sondorp, E. (2008). Factors associated with post-traumatic stress disorder and depression amongst internally displaced persons in northern Uganda. *BMC Psychiatry, 8*, 38.

Robinson, G., Conry, J., & Conry, R. (1987). Clinical profile and prevalence of fetal alcohol syndrome in an isolated community in British Columbia. *Canadian Medical Association Journal (CMAJ), 137*, 3203–3207.

Rutman, D., Callahan, M., Lundquist, A., Jackson, S., & Field, B. (2000). *Substance use and pregnancy: Conceiving women in the policy process*. Ottawa, ON: Status of Women Canada.

SAMHSA (Substance Abuse and Mental Health Services Administration). (2007). *Task 6: Identifying promising FASD practices: Review and assessment report*. Rockville, MD: Fetal Alcohol Spectrum Disorders Center for Excellence.

Short, S. E., & Zhang, F. (2004). Use of maternal health services in rural China. *Population Studies, 58*(1), 3–19.

Statistics Canada. (2001). *Canadian community health survey, cycle 1.1*. Ottawa, ON: Author.

Stratton, K. R., Howe, C. J., & Battaglia, F. C. (1996). *Fetal alcohol syndrome: Epidemiology, prevention and treatment*. Washington, DC: Institute of Medicine, National Academy Press.

Stromland, K. (2004). Fetal alcohol syndrome: A birth defect recognized worldwide. *Fetal and Maternal Medicine Review, 15*(1), 59–71.

Sulaiman, N. D., Florey, C. d. V., Taylor, D. J., & Ogston, S. A. (1988). Alcohol consumption in Dundee primigravidas and its effects on the outcome of pregnancy. *British Medical Journal, 296*, 1500–1503.

Swedish National Institute of Public Health. (2009). Alcohol consumption and the outcomes of pregnancy. Retrieved May 6, 2010, from http://www.fhi.se/en/Search/?quicksearchquery = alcohol+exposure+during+pregnancy

Tanaka, H., Suzuki, N., & Arima, M. (1982). Experimental studies on the influence of male alcoholism on fetal development. *Brain & Development, 4*(1), 1–6.

Testa, M., Quigley, B. M., & Das Eiden, R. (2003). The effects of prenatal alcohol exposure on infant mental development: A meta-analytical review. *Alcohol & Alcoholism, 38*(4), 295–304.

Tumwesigye, N. M., & Kasirye, R. (2006). Gender and the major consequences of alcohol consumption in Uganda. In I. S. Obot & R. Room (Eds.), *Alcohol, gender and drinking problems* (pp. 189–208). Geneva: WHO.

Uganda Bureau of Statistics (UBOS) and Macro International. (2006). *2001 Uganda demographic and health survey*. Claverton, MD: UBOS and Macro International Inc.

Waterson, J. (2000). *Women and alcohol in social context: Mother's ruin revisited*. New York: Palgrave.

Wechsberg, W. M., Luseno, W., & Ellerson, R. M. (2008). Reaching women substance abusers in diverse settings: Stigma and access to treatment 30 years later. *Substance Use & Misuse, 43*, 1277–1279.

Weichelt, S. A. (2008). Introduction to the special issue: International perspectives on women's substance use. *Substance Use & Misuse, 43*, 973–977.

Whitehall, J. S. (2007). National guidelines on alcohol use during pregnancy: A dissenting opinion. *Medical Journal of Australia, 86*(1), 35–37.

Wilsnack, R. W., Kristjanson, A. F, Wilsnack, S. C., & Crosby, R. D. (2006). Are U.S. women drinking less (or more)? Historical and aging trends. *Journal of Studies on Alcohol, 67*, 341–348.

Wilsnack, R. W., Wilsnack, S. C., & Obot, I. S. (2005). Why study gender, alcohol and culture? In I. S. Obot & R. Room (Eds.), *Alcohol, gender and drinking problems: Perspectives from low and middle income countries* (pp. 1–24). Geneva: WHO, Department of Mental Health and Substance Abuse.

Wilsnack, S. C., & Wilsnack, R. W. (2002). International gender and alcohol research: Recent findings and future directions. *Alcohol Research & Health, 26*(4), 245–250.

Witbrodt, J., Kaskutas, L. A., Korcha, R., & Armstrong, M. A. (2008). Under-estimation of alcohol consumption among women at-risk for drinking during pregnancy. *Contemporary Drug Problems, 35*(1), 37–58.

WHO (World Health Organization). (2004). *Global status report on alcohol 2004*. Geneva: WHO, Department of Mental Health and Substance Abuse.

WHO. (2007). *WHO expert committee on problems related to alcohol consumption*. Geneva: WHO.

WHO. (2008). *Strategies to reduce the harmful use of alcohol*. Sixty-First World Health Assembly, Report by the Secretariat. Retrieved April 22, 2009, from http://apps.who.int/gb/ebwha/pdf_files/A61/A61_13-en.pdf

WHO. (n.d.). Bridging the "know-do" gap in global health. Retrieved April 22, 2009, from http://www.who.int/kms/en/

Wright, J. T., Waterson, E. J., Barrison, I. G., Toplis, P. J., Lewis, I. G., Gordon, M. G., et al. (1983). Alcohol consumption, pregnancy and low birth weight. *Lancet,* March, 663–335.

Yang, H., Li, X., Stanton, B., Chen, X., & Liu, H. (2005). HIV-related risk factors associated with commercial sex among female migrants in China. *Health Care for Women International, 26*(2), 134–148.

YEAH (Youth Empowered and Healthy). (2007). *Alcohol consumption in Uganda, literature review*. Kampala: Author.

Zhang, J., Casswell, S., & Cai, H. (2008). Increased drinking in a metropolitan city in China: A study of alcohol consumption patterns and changes. *Addiction, 103*(3), 416–423.

Zhang, L. F., Zhao, L. C., Zhou, B. F., Yang, J., Li, Y., & Wu, Y. F. (2004). Alcohol consumption and incidence of ischemic stroke in male Chinese. *Zhonghua Liu Xing Bing Xue Za Zhi, 25*(11), 954–957.