

FASD PREVENTION: AN ANNOTATED BIBLIOGRAPHY, 2013

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FASD Prevention Literature Search 2013

Search Methods

The following databases were searched using Ebsco Host for articles published between January and December 2013:

1. Academic Search Complete
2. Bibliography of Native North Americans
3. ERIC
4. Family & Society Studies Worldwide
5. LGBT Life with Full Text
6. PsycINFO
7. Social Work Abstracts
8. Women's Studies International
9. CINAHL (Cumulative Index of Nursing and Allied Health Literature)
10. MEDLINE

Searches of each database were conducted using the following search terms: 1) Fetal alcohol syndrome (SU); 2) FASD (SU); 3) FASD (any) + Prevention (any); 4) FAS (SU) + Prevention (any); 5) Fetal Alcohol (any) + Prevention (any); 6) Fetal (any) + Alcohol (SU); 7) Fetus (any) + Alcohol (SU); 8) Foetus (any) + Alcohol (any); 9) Foetal (any) + Alcohol (any); 10) Alcohol (SU) + Pregnancy (SU) + Prevention (any); 11) Drink* (SU) + Pregnancy (SU) + Prevention (any); 12) Pregnant* (SU) + Alcohol (SU); 13) Conception (SU) + Alcohol (SU); 14) Conception (any) + Drink* (any); 15) Preconception (any) + Alcohol (any); 16) Preconception (any) + Drink* (any); 17) Post-partum (any) + Alcohol (any); 18) Alcohol (SU) + Prevention (SU) + Women (SU); 19) Alcohol (any) + Prevention (any) + Women (any); 20) Alcohol (any) + Prevention (any) + Girls (any); 21) Alcohol (any) + Prevention (any) + Youth (any); 22) Alcohol (SU) + Prevention (any) + Teen* (any); 23) Alcohol (any) + Prevention (any) + Aboriginal (any); 24) Alcohol (any) + Prevention (any) + First nation* (any); 25) Alcohol (SU) + Awareness (any); 26) Alcohol (SU) + Intervention* (any); 27) Alcohol (SU) + motivational interviewing (any); 28) Alcohol (SU) + Home visits (any); 29) PCAP (any); 30) FASD (SU) + Awareness (any).

All searches were limited to articles published in the English language. A total of 97 unique articles were located. Articles were further screened for relevance to the FASD NAT, and non-relevant articles (e.g. diagnosis of FASD) were removed from the list. Articles were then categorized into themes, as presented below.

Search Results

Prevalence FASD and of drinking in pregnancy

1. Burns, L., Breen, C., Bower, C., O'Leary, C., & Elliott, E. J. (2013). Counting fetal alcohol spectrum disorder in Australia: The evidence and the challenges. *Drug and Alcohol Review, 32(5)*, 461-467.

This narrative review describes current methods for determining the prevalence of FASD in Australia, and the limitations of the currently available prevalence data. Prevalence at birth is most commonly determined by clinic-based studies, passive surveillance systems and active case ascertainment. Alcohol exposure in pregnancy is determined by passive surveillance systems and the authors note that under ascertainment of cases is likely. Australian studies have reported birth prevalence rates of FASD of between 0.01 and 0.68 per 1000 live births, with higher rates found in many indigenous communities. The study highlights the need for consensus on the best way to collect and use prevalence data in order to “inform policy, resource and service development in the areas of health, education, justice and community.”

2. Callanan, C. (2013). 'Binge drinking' among mothers raises number of children with fetal alcohol spectrum disorder. *Learning Disability Practice, 16(2)*, 6-7.

This article addresses the negative impact of binge drinking among mothers on infants and highlights that high levels of binge drinking among mothers in Great Britain is leading to an increase in the number of cases of babies born with FASD.

3. Cameron, C. M., Davey, T. M., Kendall, E., Wilson, A., & McClure, R. J. (2013). Changes in alcohol consumption in pregnant Australian women between 2007 and 2011. *The Medical Journal Of Australia, 199(5)*, 355-357.

This study uses the Environments for Healthy Living birth cohort to measure the prevalence and distribution of drinking during pregnancy in an Australian sample. Cross sectional data revealed a significant decrease in the number of women reporting drinking during pregnancy between 2007 and 2011, overall (52.8% in 2007 compared with 34.8% in 2011), and after the first trimester of pregnancy (42.2% in 2007 to 25.8% in 2011). However, they did not measure any significant changes in high-risk drinking patterns. Lower levels of alcohol use were associated with increased age, higher education and higher income. Where as high-risk consumption after the first trimester was associated with lower levels of education and single-parent status.

4. Cooper, D. L., Petherick, E. S., & Wright, J. (2013). The association between binge drinking and birth outcomes: results from the Born in Bradford cohort study. *Journal Of Epidemiology And Community Health, 67(10)*, 821-828.

Alcohol use data from 10,851 pregnant women was collected as part of the “Born in Bradford cohort study” and linked to birth records to assess the impact of alcohol use on birth outcomes. The percentage of women who reported binge drinking was 24.5% before pregnancy, 9% during the first trimester and 3.1% during the second trimester. There was a significant association reported between binge drinking and having a small for gestational age (SGA) baby, but not for having a

preterm birth. Moderate drinking was not found to be associated with either birth outcome, indicating a dose-response relationship between drinking and adverse birth outcomes.

5. Dupraz, J., Graff, V., Barasche, J., Etter, J.-F., & Boulvain, M. (2013). Tobacco and alcohol during pregnancy: prevalence and determinants in Geneva in 2008. *Swiss Medical Weekly*, *143*, w13795-w13795.

A cross sectional survey of 207 women in a Geneva hospital revealed that smoking decreased from 31.2% before pregnancy to 21.7% during pregnancy, with 9.2% of women smoked continuously until delivery. Alcohol use decreased from 62.7% before pregnancy, to 36.3% during pregnancy. These rates are for women who “drank at least one glass of alcohol during pregnancy.” Living alone, living with a smoker, and tobacco consumption of their partner in their presence impacted tobacco use, while alcohol consumption of their partner and invitations to drink from other people were associated with alcohol use.

6. Hutchinson, D., Moore, E. A., Breen, C., Burns, L., & Mattick, R. P. (2013). Alcohol use in pregnancy: prevalence and predictors in the Longitudinal Study of Australian Children. *Drug and Alcohol Review*, *32*(5), 475-482.

This study examined the rates and factors associated with drinking during pregnancy in a representative sample of Australian families (the 2005 Longitudinal Study of Australian Children). Thirty eight per cent (37.6%) of mothers of infants aged 0-1 and 27.6% of mothers of children aged 4-5 years old reported having used alcohol during their pregnancy. Although the majority of these women reported only low or occasional use, when these percentages are extrapolated to a population level, it “equates to 131,250 children in these two age groups exposed to alcohol in utero”. Drinking during pregnancy was associated with increased maternal age, higher education, greater economic advantage, fewer physical health problems in pregnancy, and smoking in pregnancy. The authors concluded that Public Health campaigns should emphasize abstinence and reinforce that no safe threshold for alcohol use during pregnancy have been determined.

7. Khan, B. A., Robinson, R. F., Smith, J. J., & Dillard, D. A. (2013). Prenatal alcohol exposure among Alaska Native/American Indian infants. *International Journal Of Circumpolar Health*, *72*.

One hundred-twenty five Alaskan Native/ American Indian women in their third trimester were asked about their alcohol use during their pregnancy. Over half (56%) of the women reported no alcohol use during their pregnancy. The alcohol use that was reported was primarily limited to preconception (70%) and the first trimester (35%), with a significant decrease in reported drinking during the second and third trimesters. Twenty percent of participants reported binge drinking in their first or second trimester; women who reported binge drinking before pregnancy were significantly more likely to binge drink during pregnancy. A history of tobacco use, and tobacco use during pregnancy was also associated with binge drinking during pregnancy.

8. Lange, S., Shield, K., Rehm, J., & Popova, S. (2013). Prevalence of fetal alcohol spectrum disorders in child care settings: a meta-analysis. *Pediatrics*, *132*(4), e980-e995.

This aim of this study was to estimate the pooled prevalence of FAS and FASD in various child-care systems (e.g., orphanage, foster care, child welfare system) through a meta-analysis of existing data from studies that used active case ascertainment methods. The pooled prevalence for FAS was estimated to be 6.0% (60 per 1000; 95% CI: 38 to 85 per 1000) and for FASD 16.9% (169 per 1000;

95% CI: 109 to 238 per 1000). The authors concluded that “children and youth housed in or under the guardianship of the wide range of child-care systems constitute a population that is high-risk for FASD.”

9. May, P. A., Blankenship, J., Marais, A.-S., Gossage, J. P., Kalberg, W. O., Barnard, R., Seedat, S. (2013). Approaching the Prevalence of the Full Spectrum of Fetal Alcohol Spectrum Disorders in a South African Population-Based Study. *Alcoholism: Clinical & Experimental Research*, 37(5), 818-830.

The prevalence of FASD in a South African community was determined through active case ascertainment methods using a sample of 747 first-grade students. The prevalence per 1,000 students was: FAS 68, partial FAS 52, alcohol related neurodevelopmental disorder (ARND) 35, and total FASD 155. Maternal drinking during pregnancy was related to negative verbal and non-verbal ability scores, and negative behavior scores. Maternal binge drinking as low as three drinks per episode on two days of the week during pregnancy was associated with FASD.

10. Mellingenè, S., Torsheim, T., & Thuen, F. (2013). Changes in alcohol use and relationship satisfaction in Norwegian couples during pregnancy. *Substance Abuse Treatment, Prevention & Policy*, 8(1), 1-11.

The study measured the alcohol use before and up to 17 weeks during pregnancy in 82,362 couples from the Norwegian Mother and Child Cohort Study, and examined if there were trends associated with being a first time parent, and if alcohol use was related to relationship satisfaction. Both mothers and fathers reduced their drinking significantly during pregnancy (frequency, quantity and number of occasions of heavy drinking). Almost all mothers stopped drinking completely during pregnancy. First time fathers reduced their drinking more than other fathers, from initially higher levels of drinking.

11. Meschke, L. L., Holl, J., & Messelt, S. (2013). Older not wiser: risk of prenatal alcohol use by maternal age. *Maternal And Child Health Journal*, 17(1), 147-155.

Surveys were conducted with 9,004 pregnant women from the north central U.S to assess factors associated with maternal drinking by age. Teenage mothers had a higher number of risk factors previously identified as associated with drinking during pregnancy, but older women (35+ years old) were more like to have actually consumed alcohol during pregnancy. Risk factors that were associated with drinking during pregnancy included: “being employed, white, unmarried, first birth, smoking prenatally, greater levels of depressed mood, and more experiences related to alcohol abuse.”

12. Ní Shúilleabháin, A., Barry, J., Kelly, A., O'Kelly, F., Darker, C., & O'Dowd, T. (2013). Alcohol consumption in pregnancy: results from the general practice setting. *Irish Journal Of Medical Science*.

The prevalence of drinking during pregnancy was determined among 240 women in Dublin Ireland attending their GP for antenatal care. Alcohol intake and binge drinking episodes were significantly lower during pregnancy than prior to pregnancy. Over 97% of women drank no more than once a week, and almost 75% abstained for their entire pregnancy. These rates are much lower than pervious reported in Irish samples.

13. O'Leary, C., Leonard, H., Bourke, J., D'Antoine, H., Bartu, A., & Bower, C. (2013). Intellectual disability: population-based estimates of the proportion attributable to maternal alcohol use disorder during pregnancy. *Developmental Medicine & Child Neurology*, 55(3), 271-277.

This study used existing data to examine the association between maternal drinking and intellectual disability in children. All mothers with an ICD 9 or 10 diagnosis of alcohol-related diagnosis in the Western Australian health, mental health, and drug and alcohol data set were compared to a matched cohort of women with no alcohol-related diagnosis. Data from these mothers was matched to the Western Australian Intellectual Disability Database and Register of Developmental Anomalies to identify cases of intellectual disability with no identified genetic origin. The results of logistic regression indicated that "3.8% (95% CI 2.84-4.89%) of cases of intellectual disability could be avoided by preventing maternal alcohol use disorder: 1.3% (95% CI 0.81-1.86%) in non-Aboriginal and 15.6% (95% CI 10.85-20.94%) in Aboriginal children." Women with an alcohol-related diagnosis were at three times greater odds of having a child with an intellectual disability. One third of children diagnosed with FAS had intellectual disability.

14. O'Leary, C. M., Halliday, J., Bartu, A., D'Antoine, H., & Bower, C. (2013). Alcohol-use disorders during and within one year of pregnancy: a population-based cohort study 1985-2006. *BJOG: An International Journal of Obstetrics & Gynaecology*, 120(6), 744-753.

All mothers with an ICD 9 or 10 diagnosis of alcohol-related diagnosis in the Western Australian health, mental health, and drug and alcohol data set (non- Aboriginal n= 5839; Aboriginal n= 2583) were compared to a matched cohort of women with no alcohol-related diagnosis (non- Aboriginal n= 33 979; Aboriginal n= 8005). Time times more Aboriginal mothers in Western Australia had an alcohol diagnosis (23.1%) compared with non-Aboriginal mothers (2.3%). Most of the mothers of children diagnosed with FAS did not have an alcohol-related diagnosis recorded during pregnancy (70%) and 18% of mothers of children diagnosed with FAS had no record of an alcohol diagnosis.

- 15 Parackal, S. M., Parackal, M. K., & Harraway, J. A. (2013). Prevalence and correlates of drinking in early pregnancy among women who stopped drinking on pregnancy recognition. *Maternal And Child Health Journal*, 17(3), 520-529.

This study examined drinking in early pregnancy, prior to pregnancy recognition, among a random sample of New Zealand woman aged 16-40 (127 were currently pregnant and 425 women were previously pregnant). Half of the currently pregnant and 37% of the previously pregnant women reported ceasing drinking alcohol on recognition of pregnancy, although the majority drank at levels "posing a risk to the developing foetus" prior to this. Women categories as "risky drinkers" and women aged 16-24 had higher odds of drinking and binge drinking in early pregnancy.

16. Petković, G., & Barišić, I. (2013). Prevalence of fetal alcohol syndrome and maternal characteristics in a sample of schoolchildren from a rural province of Croatia. *International Journal Of Environmental Research And Public Health*, 10(4), 1547-1561.

Children and their mothers (n=917) at seven schools in rural Croatia were studied to determine the prevalence of FAS/ partial FAS, and maternal characteristics associated with drinking during pregnancy. Twelve percent (11.5%) of mothers reported drinking during pregnancy, 4% reported

drinking regularly, and 1.4% reported binge drinking. Clinical examinations with three quarters of the children in the sample revealed 14 cases of FAS, and 41 of PFAS. The combined prevalence of FASD among the examined children was 66.7 per 1,000.

17. Pfinder, M., Feldmann, R., & Liebig, S. (2013). Alcohol during pregnancy from 1985 to 2005: Prevalence and high risk profile. *Sucht: Zeitschrift für Wissenschaft und Praxis*, 59(3), 165-173.

Data from 16,978 German mothers, enrolled in the German Health Interview and Examination Survey were examined to determine the prevalence of prenatal alcohol exposure (PAE) between 1985 and 2005. Fourteen percent (13.5%) of children were born with PAE, with no significant decrease over time. Women with high SES were at increased risk of alcohol intake during pregnancy.

18. Powers, J. R., McDermott, L. J., Loxton, D. J., & Chojenta, C. L. (2013). A prospective study of prevalence and predictors of concurrent alcohol and tobacco use during pregnancy. *Maternal And Child Health Journal*, 17(1), 76-84.

Data from women who were pregnant at the time of one Australian Longitudinal Study on Women's Health survey between 2000 and 2006, but not pregnant at a previous survey (n=1,591) were examined for concurrent smoking and drinking during pregnancy. Nearly a quarter (22%) of women were concurrent smokers and drinkers before pregnancy. The majority of these women (73%) decreased drinking, 72% decreased smoking and 53% decreased drinking and smoking during pregnancy. Decreased concurrent drinking and smoking was significantly higher among women with higher education, who drank at least 1-2 days a week, and who had three or more drinks per occasion. Decreases in concurrent drinking and smoking was "significantly lower among heavy smokers, mothers of other children and disadvantaged women: those stressed about money, with poor mental health, low social support and experience of partner violence."

19. Toutain, S. (2013). Alcohol and pregnancy in France: A new-survey from Internet forums in 2009-2010. *Alcohol and Alcoholism*, 49(1), 15-27.

A qualitative approach was used to investigate attitudes towards the risks related to drinking alcohol during pregnancy among 35 pregnant women posting online to Internet forums. Women who shared on the Internet about alcohol and pregnancy tended to be young and well educated. Even if they were aware of the risks related to drinking alcohol during pregnancy, most women drink when they first get pregnant and only cease drinking when they find out they are pregnant.

20. Truong, K., Reifsnider, O., Mayorga, M., & Spitler, H. (2013). Estimated Number of Preterm Births and Low Birth Weight Children Born in the United States Due to Maternal Binge Drinking. *Maternal & Child Health Journal*, 17(4), 677-688.

Using data from the "National Center for Health Statistics; female population by childbearing age groups from the U.S. Census; increased relative risks of preterm and low birth weight (LBW) deliveries due to maternal binge drinking extracted from the literature; and adjusted prevalence of binge drinking among pregnant women estimated in a multivariate logistic regression model using Behavioral Risk Factor Surveillance System survey," a model was developed to estimate the number of PTB and LBW deliveries attributable to maternal drinking. The most conservative estimates attributed 8,701 PTBs and 5,627 LBW deliveries in 2008 to maternal drinking. Maternal binge drinking rates among all PTBs was estimated to be 1.57 % among White women, 0.69 % among Black women, 3.31 % among Hispanic women, and 2.35 % among other races. Women aged 40-44 had the

highest binge drinking rate and the highest PTB rate attributable to binge drinking, compared with women of other ages.

21. Werk, C. M., Xinjie, C., & Tough, S. (2013). Fetal Alcohol Spectrum Disorder among Aboriginal children under six years of age and living off reserve. *First Peoples Child & Family Review, 8(1)*, 7-16.

Data from Statistics Canada's Aboriginal Children's Survey (2006) was used to assess the prevalence of FASD among aboriginal children living off reserve. Rates of FASD were highest in Alberta and Manitoba (1.3% of children aged 0-5 in Alberta and Manitoba, compared with the national rate of 0.7%). Half of the children with FASD received treatment, and rates of treatment did not vary across provinces. The rates of FASD were highest among children who "lived in low income situations, who had experienced food insecurity, or who lived with foster parents."

22. Xu, F., Bonello, M., Burns, L., Austin, M.-P., Li, Z., & Sullivan, E. (2013). Hospital admissions for alcohol use disorders before, during, and after pregnancy: a study based on linked population data in new South Wales, Australia. *Alcoholism, Clinical And Experimental Research, 37(10)*, 1706-1712.

The authors linked data between 2002 and 2005 from the New South Wales (NSW) Midwives Data Collection and the NSW Admitted Patients Data Collection to investigate hospital admissions for Alcohol Use Disorder (AUD) "between the sixth month before pregnancy and the first year after birth." A total of 287 new mothers had hospital admissions and a diagnosis of AUD, for 63% of the admissions AUD was reported as the principle diagnoses. Hospital admission rates for AUD before pregnancy was 1.76/1,000 person-years (PY), which decreased to 0.49/1,000 during pregnancy and to 0.82/1,000 in the first year after birth. Smoking during pregnancy, living in remote areas and being younger than 25 was associated with being admitted to the hospital with AUD.

23. Zelner, I., & Koren, G. (2013). Alcohol consumption among women. *Journal Of Population Therapeutics And Clinical Pharmacology, 20(2)*, e201-e206.

This review of studies summarizes studies conducted worldwide on alcohol consumption during pregnancy, including the risk factors for drinking during pregnancy. The authors also report "doses and definitions of drinking behaviours."

Socio-cultural influences on, and factors associated with drinking in pregnancy

1. Adusi-Poku, Y., Bonney, A. A., & Antwi, G. D. (2013). Where, When And What Type Of Alcohol Do Pregnant Women Drink? *Ghana Medical Journal, 47(1)*, 35-39.

This paper reports on the results of a cross sectional study of 397 pregnant women in the Bosomtwe district of Ghana. Twenty percent (20.4%) of women reported drinking alcohol during their pregnancy. The most popular drink was "Akpateshie (36.4%), a locally brewed or distilled alcoholic beverage", followed by liqueurs. Women tended to drink at home and before meals, and consumed an average of 15 mls of akpateshie or 30 mls of liqueurs per a drinking session respectively. Women aged 25-29, married, Christian, and Junior High educated women tended to drink the most.

2. Anderson, A. E., Hure, A. J., Forder, P., Powers, J. R., Kay-Lambkin, F. J., & Loxton, D.

J. (2013). Predictors of antenatal alcohol use among Australian women: a prospective cohort study. *BJOG: An International Journal Of Obstetrics And Gynaecology*, 120(11), 1366-1374.

Data from women who were pregnant during the 2000, 2003, 2006 or 2009 survey of the Australian Longitudinal Study on Women's Health (n=1969) were analyzed to identify predictors of alcohol use during pregnancy. The majority of women in the sample (82%) drank alcohol during pregnancy. Women who drank alcohol on a weekly basis before becoming pregnant, binge drank before pregnancy, or were pregnant while Australian guidelines still recommended low alcohol use rather than absence were more likely to drink during pregnancy. Women with a Health Care Card or who had had fertility problems were less likely to drink during their pregnancy.

3. Arch, J. J. (2013). Pregnancy-specific anxiety: which women are highest and what are the alcohol-related risks? *Comprehensive Psychiatry*, 54(3), 217-228.

The predictors of significant alcohol use during pregnancy were investigated using a national sample of US pregnant women (n=311). Pregnancy-related anxiety was the strongest predictor of alcohol drinking during pregnancy, even after other significant predictors were controlled for. Sociodemographic factors that were associated with pregnancy anxiety included: younger age, white ethnicity, being unmarried, lower education, lower household income and no previous children. Unwanted pregnancies and general anxiety were also related to higher pregnancy anxiety. Religiosity, number of weeks pregnant, unplanned pregnancy and maternal depressive symptoms were not found to be significantly related to pregnancy anxiety.

4. Badry, D., & Wight Felske, A. (2013). An examination of three key factors: Alcohol, trauma and child welfare: Fetal Alcohol Spectrum Disorder and the Northwest Territories of Canada. *First Peoples Child & Family Review*, 8(1), 131-143.

The focus of this article is a model that was generated during the literature review conducted for the "Brightening Our Home Fires" project, a study of women's health and wellness in the North West Territories (NWT). Three factors are highlighted as critical for understanding the context of women's health in the NWT when attempting to prevent FASD in this population. These factors include: trauma, alcohol abuse and child welfare involvement. "This research served to provide a broad perspective of social problems that may be mitigating factors in the presentation of FASD in a northern context."

5. Dupraz, J., Graff, V., Barasche, J., Etter, J.-F., & Boulvain, M. (2013). Tobacco and alcohol during pregnancy: prevalence and determinants in Geneva in 2008. *Swiss Medical Weekly*, 143, w13795-w13795.

(See abstract above)

6. Elek, E., Harris, S. L., Squire, C. M., Margolis, M., Weber, M. K., Dang, E. P., & Mitchell, B. (2013). Women's Knowledge, Views, and Experiences Regarding Alcohol Use and Pregnancy: Opportunities to Improve Health Messages. *American Journal of Health Education*, 44(4), 177-190.

Focus groups with 149 reproductive age women were conducted to investigate women's knowledge and beliefs about drinking alcohol during pregnancy, as well as their perceptions of social influences

and sources of information. Although many women acknowledged the risks related to consuming alcohol while pregnant, there were many common misconceptions. Some women expressed intent to continue drinking until pregnancy confirmation. Partners, families and friends of the women influenced their decision to drink or abstain from alcohol. Health care providers the internet were reported to be important sources of information.

7. Hutchinson, D., Moore, E. A., Breen, C., Burns, L., & Mattick, R. P. (2013). Alcohol use in pregnancy: prevalence and predictors in the Longitudinal Study of Australian Children. *Drug and Alcohol Review, 32*(5), 475-482.

(See abstract above)

8. Livingston, J. A., Bay-Cheng, L. Y., Hequembourg, A. L., Testa, M., & Downs, J. S. (2013). Mixed Drinks and Mixed Messages: Adolescent Girls' Perspectives on Alcohol and Sexuality. *Psychology Of Women Quarterly, 37*(1), 38-50.

Young women aged 14-17, and their mothers, participated in simultaneous focus groups to investigate the adolescent girls interpret the mixed messages they receive about experimenting with alcohol and sexuality. Results indicated that girls recognize the risk associated with combining alcohol and sexual activity, but they also “perceived sexual advantages to drinking alcohol.” These advantages included: “facilitating social and sexual interactions and excusing unsanctioned sexual behavior”. However, alcohol was also seen to be associated with an increased likelihood of regret and sexual coercion.

9. Loxton, D., Chojenta, C., Anderson, A. E., Powers, J. R., Shakeshaft, A., & Burns, L. (2013). Acquisition and Utilization of Information About Alcohol Use in Pregnancy Among Australian Pregnant Women and Service Providers. *Journal of Midwifery & Women's Health, 58*(5), 523-530.

Interviews with mothers of young children (n=74) and focus groups with service providers (n=14) in urban and rural areas of New South Wales were conducted to investigate how women and service providers acquire and utilize information about alcohol use during pregnancy. Both women and service providers expressed “uncertainty” about the recommendations for alcohol use during pregnancy. Women said they had felt pressure to both drink and not drink during pregnancy. Women who did drink during their pregnancies tended to discount abstinence messages and “reported a process of internal bargaining on issues” including the stage of their pregnancy and they type of alcoholic beverage. Women who had abstained during their pregnancy reported doing so primarily out of a fear that they would be held responsible for any problems associated with their pregnancies or children. Service providers indicated they only discussed alcohol use with pregnant women if they perceived them to be at high-risk.

10. Mallard, S. R., Connor, J. L., & Houghton, L. A. (2013). Maternal factors associated with heavy periconceptional alcohol intake and drinking following pregnancy recognition: a post-partum survey of New Zealand women. *Drug and Alcohol Review, 32*(4), 389-397

A retrospective survey with women (n=723) in maternity wards across New Zealand were conducted to assess the patterns of drinking during pregnancy. The majority of women (82%) reported they had consumed alcohol prior to pregnancy, with 20% reporting they consumed >4 standard drinks per occasion. Overall, 34% reported consuming alcohol during their pregnancy. Almost one-quarter (24%) of drinkers continued to drink following pregnancy recognition, a behavior that was positively

associated with frequency of alcohol consumption before pregnancy. Twelve percent of pregnancies were at high risk of heavy alcohol exposure in early gestation. Women who were most at risk to drink during pregnancy were: indigenous Māori women, Pacific women, smokers and drug users.

11. Mellingenè, S., Torsheim, T., & Thuen, F. (2013). Changes in alcohol use and relationship satisfaction in Norwegian couples during pregnancy. *Substance Abuse Treatment, Prevention & Policy*, 8(1), 1-11.

(See abstract above)

12. Niclasen, J. (2013). Drinking or Not Drinking in Pregnancy: The Multiplicity of Confounding Influences. Alcohol and Alcoholism.

Mothers in the Danish National Birth Cohort who drank during pregnancy were compared with women who did not in order to investigate the potential confounding variables associated with drinking during pregnancy. Significant differences were observed on all virtually variables between abstainers and high-intake drinkers. The authors conclude that the differences on “confounding factors may in part explain the lack of consistency in the literature investigating prenatal exposure to low-moderate doses of alcohol and mental health development.”

13. Petković, G., & Barišić, I. (2013). Prevalence of fetal alcohol syndrome and maternal characteristics in a sample of schoolchildren from a rural province of Croatia. *International Journal Of Environmental Research And Public Health*, 10(4), 1547-1561.

(See abstract above)

14. Stene-Larsen, K., Torgersen, L., Strandberg-Larsen, K., Normann, P. T., & Vollrath, M. E. (2013). Impact of maternal negative affectivity on light alcohol use and binge drinking during pregnancy. *Acta Obstetricia Et Gynecologica Scandinavica*, 92(12), 1388-1394.

Data from the Norwegian Mother and Child Cohort study (66,111 mothers) was used to examine the effect of negative affectivity on alcohol use during pregnancy. The results for light alcohol use during pregnancy showed that for each unit increase in maternal negative affectivity the odds for light alcohol use increased 27% in the first trimester, and 28% in the second trimester. For binge drinking, each unit increase of negative affectivity was associated with 55% higher odds in the first trimester, and 114% higher odds in the second trimester.

15. Thanh, N. X., Jonsson, E., Moffatt, J., & Dennett, L. (2013). Fetal alcohol spectrum disorder--poverty trap? *Journal Of Population Therapeutics And Clinical Pharmacology*, 20(1), e63-e66.

This article briefly describes the association between poverty and FASD, and the ways in which FASD may be considered a “poverty trap”. A “poverty trap” refers to the relationship between health problems and poverty, in which “poverty is the result of ill health.”

16. Zobotka, J. M. (2013). 'How could I have done this?': A qualitative study of birth

mothers who have children diagnosed with Fetal Alcohol Syndrome. (Doctor of Philosophy), Rutgers, New Jersey.

Interviews with 11 biological mothers of children with FAS were conducted to understand their feelings, thoughts and experiences. Almost all of the mothers interviewed had experienced abuse during their childhoods. Many women also described witnessing domestic violence as children, and experiencing violence in their adult relationships. Most women experienced guilt about their child's diagnosis of FAS. The women relied on a disease model, inaccurate or incomplete knowledge and a lack of awareness of the pregnancy to understand their alcohol use during pregnancy. A number of coping mechanisms arose in the interviews including: "spirituality, devotion to a cause/giving back, knowledge that their children needed them, and relying on support from others".

Biomedical mechanisms of the effects of alcohol (selected)

1. Kim, P., Park, J. H., Choi, C. S., Choi, I., Joo, S. H., Kim, M. K., Kim, S. Y., Kim, K. C., Park, S. H., Kwon, K. J., Lee, J., Han, S. H., Ryu, J. H., Cheong, J. H., Han, J. Y., Ko, K. N. & Shin, C. Y. (2013). Effects of ethanol exposure during early pregnancy in hyperactive, inattentive and impulsive behaviors and MeCP2 expression in rodent offspring. *Neurochemistry Research*, 38, 620-31.

This study examines the effect of prenatal alcohol exposure on hyperactivity and impulsivity using mice and rats. The authors also examined changes in "dopamine transporter and MeCP2 expression, which may underlie as a key neurobiological and epigenetic determinant in FASD and hyperactive, inattentive and impulsive behaviors." Offspring that were exposed to alcohol during pregnancy had "hyper locomotive activity, attention deficit and impulsivity." They also showed an increase in dopamine and norepinephrine transporter level compared to control group. This group also had a significantly decreased expression of MeCP2. The results suggest that prenatal exposure to alcohol "induces hyperactive, inattentive and impulsive behaviors in rodent offspring that might be related to global epigenetic changes as well as aberration in catecholamine neurotransmitter transporter system."

2. Mattson, S. N., Roesch, S. C., Glass, L., Dewese, B. N., Coles, C. D., Kable, J. A., May, P. A., Kalberg, W. O., Sowell, E. R., Adnams, C. M., Jones, K. L. & Riley, E. P. (2013) Further development of a neurobehavioral profile of fetal alcohol spectrum disorders. *Alcoholism: Clinical and Experimental Research*, 37, 517-528.

A standard set of neuropsychological tests were administered to three groups of children from the US and South Africa: 1) subjects with heavy prenatal alcohol exposure (AE); 2) typical developing controls, and; 3) children with attention-deficit/hyperactivity disorder (ADHD). Three latent profile analysis of the data were performed: 1) FAS and controls, 2) AE without FAS and controls, and 3) AE (with or without FAS) and ADHD. "Classification accuracy was moderate but significant across the 3 analyses. In analysis 1, overall classification accuracy was 76.1% (77.2% FAS, 75.7% CON). In the second analysis, overall classification accuracy was 71.5% (70.1% AE/non-FAS, 72.4% CON). In the third analysis, overall classification accuracy was 73.9% (59.8% AE, 75.7% ADHD)." These results suggest that approximately 70% of children with heavy prenatal alcohol exposure are neurobehaviorally affected.

3. Sliwowska, J. H., Song, H. J., Bodnar, T. & Weinberg, J. (2013). Prenatal Alcohol

Exposure Results in Long-Term Serotonin Neuron Deficits in Female Rats: Modulatory Role of Ovarian Steroids. *Alcoholism: Clinical and Experimental Research*.

(No abstract available)

4. Uban, K. A., Comeau, W. L., Ellis, L. A., Galea, L. a. M. & Weinberg, J. (2013). Basal regulation of HPA and dopamine systems is altered differentially in males and females by prenatal alcohol exposure and chronic variable stress. *Psychoneuroendocrinology*, 38, 1953-1966.

This study uses mice to investigate the effect on the hypothalamic–pituitary–adrenal (HPA) and dopamine (DA), which are systems with overlapping neurocircuitries. Offspring from prenatal alcohol-exposed (PAE), pairfed (PF), and control (C) groups were subjected to either “chronic variable stress (CVS) or remained as a no stress (non-CVS) control group.” At baseline and 24 after the stress condition, corticotrophin releasing hormone (CRH) mRNA and glucocorticoid and DA receptor (DA-R) expression were. The authors “that regulation of basal HPA and DA systems, and likely, HPA–DA interactions, are altered differentially in males and females by PAE and CVS.” The findings add the understanding of the effects of prenatal alcohol exposure on the HPA and dopamine systems. They provide insights into the possible mechanism that underlie mental health problems that are related to stress and dopamine signaling (including substance use disorder), which have a high prevalence among individuals with FASD.

Level 1 Prevention

1. France, K. E., Donovan, R. J., Henley, N., Bower, C., Elliott, E. J., Payne, J. M., . . . Bartu, A. E. (2013). Promoting Abstinence From Alcohol During Pregnancy: Implications From Formative Research. *Substance Use & Misuse, 48(14)*, 1509-1521.

This paper describes the process of developing messages to promote abstinence from alcohol use during pregnancy. Four focus groups (n=23) of women in Western Australia were conducted to investigate attitudes and beliefs toward drinking and motivations for changing behavior, and four television concepts were developed from their responses. These concepts were further focus tested with nine focus groups (n=31). Implications for prevention campaigns are discussed.

2. Keane, H. (2013). Healthy adults and maternal bodies: Reformulations of gender in Australian alcohol guidelines. *Health Sociology Review, 22(2)*, 151-161.

The authors examine the 2009 Australian guidelines for reducing risk from alcohol, in the context of sex and gender. These guidelines promote one low-risk level for drinking for "healthy men and women." These guidelines however have an increased focus on the risk of 'maternal alcohol consumption', recommending abstinence for both pregnant and breastfeeding women. The authors argue that the reorganization of gender within the guidelines "reflects several shifts that have taken place both in public health discourse and in the social practices and cultural norms of gender."

3. Mathews, R., Thorn, M., & Giorgi, C. (2013). Vested Interests in Addiction Research and Policy. Is the alcohol industry delaying government action on alcohol health warning labels in Australia? *Addiction, 108(11)*, 1889-1896.

The approaches and arguments used by the alcohol industry to prevent the introduction of mandatory warning labels in Australia are discussed and compared with similar tactics used by the tobacco industry. These strategies include: questioning the rationale and evidence base for labels, arguing that labels will damage public health and the economy, lobbying and seeking to influence politicians (including monetary donations), and introducing its own voluntary labeling scheme. The authors argue that the points made by the alcohol industries are "flawed and their empirical basis is limited."

4. Poole, N., & Greaves, L. (2013). Alcohol use during pregnancy in Canada: how policy moments can create opportunities for promoting women's health. *Canadian Journal Of Public Health, 104(2)*, e170-e172.

This article addresses the challenge of igniting action on health promotion for women in Canada with respect to alcohol use during pregnancy. The authors illustrate that accelerated action on health promotion for women that engages multiple levels of players, women-centred and harm-reduction frameworks and a gendered approach to understanding women's lives can be achieved when the right policy moment occurs. They use the Olympic Games in 2010 as an illustration, where the BC government used the Games to encourage action on women's health promotion and the prevention of alcohol use in pregnancy. They also suggest that the 2011 announcement of new low-risk drinking guidelines that recommend lower intake of alcohol for women than for men offers another, to date unused, opportunity.

Level 2 Prevention

1. Arnold, K., Burke, M., Decker, A., Herzberg, E., Maher, M., Motz, K., . . . Ybarra, M. (2013). Fetal alcohol spectrum disorders: knowledge and screening practices of university hospital medical students and residents. *Journal Of Population Therapeutics And Clinical Pharmacology*, *20(1)*, e18-e25.

A survey was used to assess pre-clinical medical students and clinical providers knowledge and screening practices for FAS, FASD and alcohol consumption. Thirty eight per cent (38%) of clinical providers said they always screen pregnant women for alcohol use, 34% said they always screen women planning to become pregnant and 9% said they screen all women of child bearing age. Sixty nine percent (69%) of clinical providers and 67% of pre-clinical medical students said that there was no safe amount of alcohol to consume during pregnancy.

2. Balachova, T., Bonner, B. L., Chaffin, M., Isurina, G., Shapkaitz, V., Tsvetkova, L., . . . Knowlton, N. (2013). Brief FASD prevention intervention: physicians' skills demonstrated in a clinical trial in Russia. *Addiction Science & Clinical Practice*, *8(1)*, 1-1.

This paper describes the implementation and discusses the feasibility of a brief intervention for preventing alcohol-exposed pregnancies in a Russian OBGYN clinic. A brief dual-focused physician intervention was developed using the "Brief physician intervention guidelines and two evidence-based FASD prevention interventions." Physicians (n=23) and women (n=372) independently completed fidelity check lists and 78 audiotaped routine clinical visits were coded to monitor the implementation of the intervention. Results indicate a high feasibility for implementation of a brief dual-focused physician intervention during routine clinical OBGYN visits in Russia.

3. Farrell-Carnahan, L., Hetteema, J., Jackson, J., Kamalanathan, S., Ritterband, L. M., & Ingersoll, K. S. (2013). Feasibility and promise of a remote-delivered preconception motivational interviewing intervention to reduce risk for alcohol-exposed pregnancy. *Telemedicine and e-Health*, *19(8)*, 597-604.

This pilot study assessed the feasibility of a telephone and mail delivered preconception, motivational interviewing based prevention program for AEP (EARLY Remote). Participants engaged with the intervention, and rated it as credible. Integrity to MI and therapeutic alliance were good. Women's reported drinks per day rate and frequency of unreliable contraception decreased over time (measured at 3 and 6 months post-intervention). The proportions of women who drank at risky levels, used unreliable or no contraception, and were at risk for AEP in the past 90 days decreased significantly from baseline to 6 months. The authors discuss the implications of their results to working with remote or dispersed populations.

4. Fröschl, B., Brunner-Ziegler, S., & Wirl, C. (2013). Prevention of fetal alcohol syndrome. *GMS Health Technology Assessment*, *9*, Doc10-Doc10.

In this review of prevention efforts, the authors discuss the efficiency and effectiveness of different interventions. Short counselling interviews are described to be efficient and the authors present evidence to show that short-interventions increase alcohol abstinence among pregnant women.

5. Gebara, C. F. d. P., Bhona, F. M. d. C., Ronzani, T. M., Lourenço, L. M., & Noto, A. R. (2013). Brief intervention and decrease of alcohol consumption among women: a systematic review. *Substance Abuse Treatment, Prevention, And Policy, 8*, 31-31.

This paper reports on a systematic review of brief interventions (BI) for reducing alcohol consumption during pregnancy published between 2006 and 2011. Thirty-six articles were identified that evaluate the effectiveness of BI and included in the review. The results of the review indicated promising results for BI, especially for pregnant women and for college age women, across different applications (face-to-face, computer or telephone delivered). However the results were unclear in the context of BI delivered in primary care. Generally the results suggested that BI lead to a decrease in alcohol consumption among women, including both the “number of days of consumption and the number of doses.”

6. Gorman, J. R., Clapp, J. D., Calac, D., Kolander, C., Nyquist, C., & Chambers, C. D. (2013). Creating A Culturally Appropriate Web-Based Behavioral Intervention For American Indian/Alaska Native Women In Southern California: The Healthy Women Healthy Native Nation Study. *American Indian & Alaska Native Mental Health Research: The Journal of the National Center, 20(1)*, 1-15.

Focus groups and interviews with American Indian and Alaskan Native Women in Southern California (n=21) were conducted to modify a brief, “Web-based program for screening and prevention of prenatal alcohol use.” As a result, several key program modification were made to the program that were seen as reflected community priorities, and were seen as important for engaging community members and fostering relationship between researchers and the community.

7. Koren, G., Sarkar, M., Rosenbaum, C., & Orrbine, E. (2013). The maternal drinking history guide: development of a national educational tool. *Journal Of Population Therapeutics And Clinical Pharmacology, 20(1)*, e42-e43.

This paper describes the development and implementation of a knowledge-translation program for health care providers developed by the National Taskforce for the development of screening tools for FASD (Canada). The results indicated that most physicians did not ask women of reproductive age about their drinking. The Taskforce expressed seriously concerned that even an effective guide may not lead to changes in the practices of physicians. As results, the Taskforce has developed a three-phase Knowledge Translation plan, to ensure that the educational program developed will be effective for Canadian healthcare providers.

8. Penberthy, J. K., Hook, J. N., Hetteema, J., Farrell-Carnahan, L., & Ingersoll, K. (2013). Depressive symptoms moderate treatment response to brief intervention for prevention of alcohol exposed pregnancy. *Journal of Substance Abuse Treatment, 45(4)*, 335-342.

This study presents a reanalysis of data from a study that evaluated the effectiveness of EARLY, an intervention based on MI to decrease alcohol use and increase effective contraceptive use, compared to a video information or information brochure condition. Results indicated that women with higher levels of depression reported more improvements on reducing drinking and increasing contraception in the MI condition. Global distress moderated only drinking behaviour, and anxiety was not a moderator of any outcome in any intervention group.

9. Rendall-Mkosi, K., Morojele, N., London, L., Moodley, S., Singh, C., & Girdler-Brown, B. (2013). A randomized controlled trial of motivational interviewing to prevent risk for an alcohol-exposed pregnancy in the Western Cape, South Africa. *Addiction, 108*(4), 725-732.

A randomized controlled trial was used to test the effectiveness of a five-session MI intervention among 165 women aged 18-44 years in rural South Africa. The intervention was found to be effective in reducing the risk of AEP. Half of the women were found to be at risk for AEP at baseline, which decreased to 24% at 3 months and was maintained at 12 months (28%).

10. Snertingdal, M. I. (2013). Brief alcohol interventions in Norwegian natal care: a neoliberal mode of governing and social consequences. *Drugs & Alcohol Today, 13*(1), 36-43.

This paper explores the models of governance that brief alcohol interventions during pregnancy (such as MI) represent, and the potential social consequences of such a model. Traditionally Nordic public health focuses on control policies aimed at the general population. However, brief interventions represent an example of a “neoliberal mode of governance, because it is an indirect way of governance, which casts healthcare workers as a part of the state that wants to make pregnant woman self-governing and responsible.” The authors argue that a neoliberal mode of governance might lead to four social consequences: “blurring the line between the power of the state and the power of the self, which blurs the distinction between objective health hazards and moral judgment; spreading of powerful therapeutic-tools to non-therapeutic professions further neutralizes the moral dimensions; individualization of responsibilities for fetal health decontextualizes females' drinking habits; and drawing the attention of the healthcare worker towards regulations of normality and away from helping females with severe drinking problems.” The authors argue that there is value in a dual approach to governance; first as general “risk-avoidance regulations directed at the population”, and second as targeting individuals.

11. van der Wulp, N. Y., Hoving, C., & de Vries, H. (2013). A qualitative investigation of alcohol use advice during pregnancy: experiences of Dutch midwives, pregnant women and their partners. *Midwifery, 29*(11), e89-e98.

Interviews and focus groups were conducted with Dutch midwives (n=10) and pregnant women (n=25) and their partners to assess what information about alcohol consumption is being delivered to and received by pregnant women. Midwives indicated they intended to promote complete abstinence, but tended to do so only when alcohol use was reported. They also indicated a lack of knowledge and skills on screening, limited knowledge of the mechanisms and consequences of alcohol use during pregnancy and that they did not routinely involve partners in alcohol advice. Both pregnant women and their partners considered midwives an important source of information on alcohol use during pregnancy. Women reported receiving conflicting information from different health care providers. Partners expressed interest in the subject, but reported feeling ignored by midwives.

12. Velasquez, M. M., von Sternberg, K., & Parrish, D. E. (2013). CHOICES: an integrated behavioral intervention to prevent alcohol-exposed pregnancies among high-risk women in community settings. *Social Work In Public Health, 28*(3-4), 224-233.

This paper provides details of the CHOICES intervention, and evidence for its effectiveness. CHOICES is an four-session manual-guided intervention based on MI and cognitive-behavioural strategies for reducing alcohol use and increasing effective contraception. A series of randomized controlled trials have established the efficacy of CHOICES in a variety of settings including: “primary care, university hospital-based obstetrical/gynecology practices, urban jails, substance abuse treatment settings, and a media-recruited sample in three large cities.”

13. Wilton, G., Moberg, D. P., Van Stelle, K. R., Dold, L. L., Obmascher, K., & Goodrich, J. (2013). A randomized trial comparing telephone versus in-person brief intervention to reduce the risk of an alcohol-exposed pregnancy. *Journal of Substance Abuse Treatment, 45*(5), 389-394.

This study compared the effectiveness of in-person or telephone administered brief intervention for decreasing alcohol use and increasing effective contraceptive use. Women aged 18-44 who reported risky drinking levels and that they were not using effective contraceptive were randomized to one of the two delivery methods. Overall the participants showed a small decrease in alcohol use, and a larger increase in effective contraceptive use. No significant differences between the delivery methods was observed, indicating that telephone delivery of the intervention may be a cost-effective alternative for reducing AEP.

Level 3 Prevention

1. Nathoo, T., Poole, N., Bryans, M., Dechief, L., Hardeman, S., Marcellus, L., . . . Taylor, M. (2013). Voices from the community: Developing effective community programs to support pregnant and early parenting women who use alcohol and other substances. *First Peoples Child & Family Review, 8*(1), 94-107.

In this paper, the authors describe the development of single-access programs to meet the needs of pregnant and early parenting women who use alcohol and other substances in four different communities in Canada. The article discusses some of the elements of what makes these programs successful. Examples are used from four different programs, including the Maxxine Wright Place Project in Surrey, BC; the Healthy, Empowered, Resilient (H.E.R) Pregnancy Program in Edmonton, AB; Her Way Home in Victoria, BC; and Manito Ikwe Kagiikwe in Winnipeg, MB. All four programs are based upon the "best practices" elements of: 1) engagement and outreach, 2) harm reduction, 3) cultural safety, 4) supporting mother and child, and 5) partnerships. In addition to serving First Nations, Métis, Inuit and other indigenous women and their families, these programs have drawn upon indigenous knowledge in their program design, values, and philosophy and have collaborated with indigenous women in evaluation and research to track the successes of these programs and to improve service delivery.

Level 4 Prevention

1. Pelech, W., Badry, D., & Daoust, G. (2013). It takes a team: Improving placement stability among children and youth with Fetal Alcohol Spectrum Disorder in care in Canada. *Children & Youth Services Review, 35(1)*, 120-127.

Children with FASD tend to have a significantly higher rate of placement disruption while in care. This study investigated the impact of an enhanced child welfare practice intervention on placement stability for 182 children who experience FASD and are in care. Rates of placement change were compared in children within a region that received the intervention (n=98) to children in regions that did not (n=84). The children in the intervention regions reported significantly lower rates of placement change. Worker contact was found to be significantly associated with placement stability.

2. Pomeroy, E. C., & Parrish, D. E. (2013). Online Training on Fetal Alcohol Spectrum Disorders for Court-Appointed Special Advocates Volunteers. *Health & Social Work, 38(3)*, 159-166.

This study used a pre-/post-test design to evaluate the impact of a three-hour online FASD training for Court Appointed Special Advocates (CASA) volunteers (228) in Texas. Significant improvements were demonstrated on all confidence and comfort in identifying children with FASD for referral measures. There was also significant improvement of knowledge of FASD.

3. Thanh, N. X., Moffatt, J., Jacobs, P., Chuck, A. W., & Jonsson, E. (2013). Potential impacts of the Alberta fetal alcohol spectrum disorder service networks on secondary disabilities: a cost-benefit analysis. *Journal Of Population Therapeutics And Clinical Pharmacology, 20(2)*, e193-e200.

The effectiveness of the Alberta Fetal Alcohol Spectrum Disorder (FASD) Service Networks in reducing secondary disabilities associated with FASD (inclining crime, homelessness, mental health problems, and school disruption or unemployment) was evaluated using a cost-benefit analysis approach. Results indicated that if “no network was in place throughout the province, the secondary disabilities would cost \$22.85 million (including \$8.62 million for adults and \$14.24 million for children) per year.” Considering the 6.12 million cost per year of the Network, the “break-even effectiveness” was estimated to be 28%.

Preconception interventions

1. Backhausen, M. G., Ekstrand, M., Tydén, T., Magnussen, B. K., Shawe, J., Stern, J., & Hegaard, H. K. (2013). Pregnancy planning and lifestyle prior to conception and during early pregnancy among Danish women. *The European Journal Of Contraception & Reproductive Health Care: The Official Journal Of The European Society Of Contraception*.

A survey of 258 women was used to examine the extent to which Danish women attending antenatal care plan their pregnancies and to “determine the association between pregnancy planning and the intake of folic acid, alcohol consumption and smoking habits prior to conception and before the 16th week of gestation.” The majority (77%) of participants reported planning their pregnancies. Women who took folic acid, consumed less alcohol and stopped smoking prior to pregnancy were more likely to have planned their pregnancy. Twenty percent (20%) of women with a high level of planning for their pregnancies and 31% with a low level of planning reported binge drinking in early pregnancy.

2. Hanson, J. D., Miller, A. L., Winberg, A., & Elliott, A. J. (2013). Prevention of alcohol-exposed pregnancies among nonpregnant American Indian women. *American Journal of Health Promotion, 27(3, Suppl)*, S66-S73.

This study evaluated the Project CHOICES intervention in reducing alcohol use and increasing effective contraceptive use among American Indian women from three Northern Plains Tribes (n=231). All of the alcohol consumption measures were significantly decreased at each follow up intervention session (every 3 months for a year), with average change rates of -17% to -26%. Effective contraceptive use also increased.

3. Ingersoll, K. S., Ceperich, S. D., Hettema, J. E., Farrell-Carnahan, L., & Penberthy, J. K. (2013). Preconceptional motivational interviewing interventions to reduce alcohol-exposed pregnancy risk. *Journal of Substance Abuse Treatment, 44(4)*, 407-416.

A randomized controlled trial was conducted to evaluate the effectiveness of a one-session intervention based on MI to reduce AEP (EARLY), compared with an informational video or informational brochure condition. Participants that received the EARLY condition had a reduction in ineffective contraception use, but did not reduce their drinks per drinking day. The one-session intervention showed smaller effect sizes than previously conducted RCT's on similar, but multi-session AEP interventions.

4. Farrell-Carnahan, L., Hettema, J., Jackson, J., Kamalanathan, S., Ritterband, L. M., & Ingersoll, K. S. (2013). Feasibility and promise of a remote-delivered preconception motivational interviewing intervention to reduce risk for alcohol-exposed pregnancy. *Telemedicine and e-Health, 19(8)*, 597-604.

(See abstract above)

5. Shannon, G. D., Alberg, C., Nacul, L., & Pashayan, N. (2013). Preconception health

care and congenital disorders: mathematical modelling of the impact of a preconception care programme on congenital disorders. *BJOG: An International Journal Of Obstetrics And Gynaecology*, 120(5), 555-566.

A mathematical model was created to determine the impact of preconception care on congenital disorders. The model was based on data from women age 15-45 in Cambridge, UK that had participated in one of three interventions: 1) folic acid supplementation and fortification (representing national, universal interventions); 2) alcohol intervention (reflecting primary care strategies); and 3) diabetes management (targeting a population of high-risk women with a known chronic disease). It was estimated, based on a single- year national cohort of England, that between 585 and 1085 congenital disorders could be prevented with a national preconception programme, representing an annual reduction of notification of congenital disorders by 8-15%.

Sub-Populations

Adolescent girls

1. Livingston, J. A., Bay-Cheng, L. Y., Hequembourg, A. L., Testa, M., & Downs, J. S. (2013). Mixed Drinks and Mixed Messages: Adolescent Girls' Perspectives on Alcohol and Sexuality. *Psychology Of Women Quarterly*, 37(1), 38-50.

(See abstract above)

Aboriginal women

1. Badry, D., & Wight Felske, A. (2013). An exploratory study on the use of Photovoice as a method for approaching FASD prevention in the Northwest Territories. *First Peoples Child & Family Review*, 8(1), 144-161.

This paper describes The Brightening Our Home Fires (BOHF) Project that investigated FASD and other health concerns in four communities in the Northwest Territories with the aim of developing an FASD prevention approach that was meaningful in these contexts. The project used a Participatory-Action Research framework, was culturally responsive, and employed a photovoice technique. The outcomes of the research included stronger relationships, community based partnerships and “a framework for informing services and practice responses, or enhancements to current service delivery frameworks around FASD prevention and related health concerns” that emphasized the links between trauma, other social determinant’s of women’s health and FASD prevention.

2. Goose, A., & Badry, D. (2013). Healing through Photography -- A reflection on the Brightening Our Home Fires Project in the remote hamlet of Ulukhaktok, Northwest Territories. *First Peoples Child & Family Review*, 8(1), 162-170.

This paper describes the use of photovoice in The Brightening Our Home Fires Project within the community of Ulukhaktok in the Northwest Territories (NT), and suggests the possibilities it has as a method for “giving voice to unheard experiences in a creative and innovative way on complex areas of health.”

3. Gorman, J. R., Clapp, J. D., Calac, D., Kolander, C., Nyquist, C., & Chambers, C. D. (2013). Creating A Culturally Appropriate Web-Based Behavioral Intervention For American Indian/Alaska Native Women In Southern California: The Healthy Women Healthy Native Nation Study. *American Indian & Alaska Native Mental Health Research: The Journal of the National Center*, 20(1), 1-15.

(See abstract above)

4. Hanson, J. D., Miller, A. L., Winberg, A., & Elliott, A. J. (2013). Prevention of alcohol-exposed pregnancies among nonpregnant American Indian women. *American Journal of Health Promotion*, 27(3, Suppl), S66-S73.

(See abstract above)

5. Johnston, S., & Boyle, J. S. (2013). Northern British Columbian Aboriginal Mothers: Raising Adolescents With Fetal Alcohol Spectrum Disorder. *Journal of Transcultural Nursing*, 24(1), 60-67.

Interviews and participant observation was conducted with 8 women in Northern British Columbia who were mothers of children with FASD in order to gain understanding of how these mothers interpret and respond to their children's FASD. The interpretive analysis generated an overarching cultural theme, "Mothering from the Margins." The theme "conveyed how study participants understood FASD and how they were raising their adolescents within the social and historical context unique to postcolonial societies."

6. Koptie, S. (2013). Alcohol is a great destroyer: A call for insight on ceremonial approaches for coping with FASD. *First Peoples Child & Family Review*, 8(1), 17-25.

In this self-reflective paper, the author (a "seasoned community helper") writes that an "Open discussion about the devastation of FASD is the most important conversation required across our territories today."

7. Nathoo, T., Poole, N., Bryans, M., Dechief, L., Hardeman, S., Marcellus, L., . . . Taylor, M. (2013). Voices from the community: Developing effective community programs to support pregnant and early parenting women who use alcohol and other substances. *First Peoples Child & Family Review*, 8(1), 94-107.

(See abstract above)

7. Werk, C. M., Xinjie, C., & Tough, S. (2013). Fetal Alcohol Spectrum Disorder among Aboriginal children under six years of age and living off reserve. *First Peoples Child & Family Review*, 8(1), 7-16.

(See abstract above)