

# Preconception Interventions

## Alcohol and Contraception Example

### Background

Preconception interventions are a set of health promotion, educational, counselling and policy interventions that aim to identify and modify risks to women and men's health or pregnancy outcome. A key rationale for preconception support is the rate of unplanned pregnancy (27% in Canada) [1, 2]: making the time period between conception and pregnancy confirmation one where women may continue to take health risks. Health risks observed in the preconception period often continue during pregnancy. For example, pre-pregnancy at-risk alcohol use is a key predictor of alcohol use during pregnancy, as is a history of violence/abuse [3]. The use of alcohol, tobacco and other substances, nutritional deficiencies, and chronic health issues during pregnancy are associated with negative health outcomes for the woman, her pregnancy and the fetus, thus the preconception period is important for health improvements in these areas.

### Alcohol use example

Substance use is a significant preconception health issue. In a survey of women in Canada, in the three months prior to pregnancy recognition, 62.4% drank alcohol [4]. One-fifth (20%) of Canadian women report heavy (more than 5 drinks) episodic drinking at least once in the prior month [5]. From 2003 to 2010, the increase in heavy alcohol use among women between the ages of 25 and 34 was 39% [5]. During pregnancy, approximately 14% of Canadian women report alcohol use [6].

### Evidence to Support Preconception Interventions

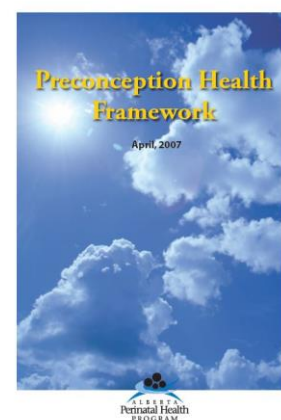
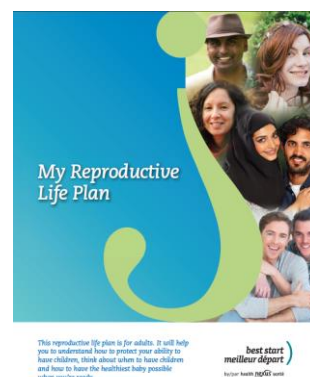
A search of literature published between 2005 and 2015 resulted in only 13 articles in the published academic literature on preconception interventions for preventing alcohol-exposed pregnancy (AEP). However, the available evidence suggests that discussing alcohol with non-pregnant women can reduce the risk of AEP, and these discussions may be particularly effective when coupled with conversations about effective contraceptive use.

### Alcohol interventions

Brief interventions to address alcohol use in the preconception period have demonstrated effectiveness in reducing alcohol use. In one study which tested a web-based assessment of drinking by non-pregnant, low income women, both women who received the intervention of tailored health information regarding alcohol use, and women receiving general information about FASD only, reported a decrease in risky drinking overall (among 70% of participants), suggesting that assessment alone may serve as an intervention [7]. In a study comparing a web based versus mail delivered self guided intervention for women at risk of AEP, at four month follow up 58% of women were no longer at risk for an AEP [8]. There was no significant difference in quit rates between the mail (22%) and web-based groups (23.1%).

### Dual focus interventions to prevent AEP

Studies have also evaluated interventions that address both alcohol use and contraception among women of reproductive age at risk for AEP, which involve a risk assessment followed by brief counselling often based in motivational



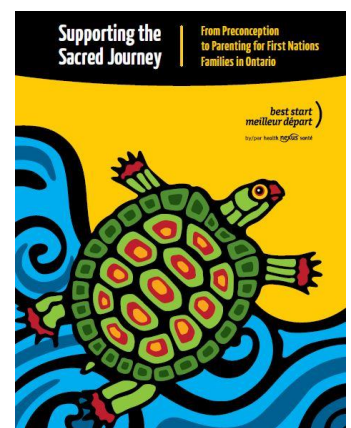
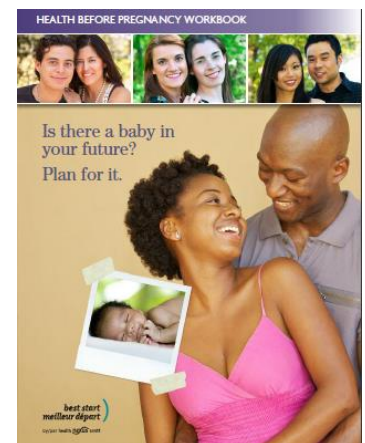
interviewing (MI). Project CHOICES, a 4-session prevention program and MI intervention, is an example of one such program. Evaluations of Project CHOICES have demonstrated: significant improvements in reduced risk of AEP up to 9 months post-intervention [9]; in six high-risk settings, 68.5% of women had a reduced risk of AEP at 6 month post-intervention (32.9% reduced drinking and used contraception, 12.5% reduced only drinking, and 23.1% used contraception only) [10]; and American Indian women had decreased the amount of alcohol consumed post-intervention (with average number of drinks on any one occasion decreasing from 6.8 to 3.4) and increased contraception use [11].

Multiple formats for delivering dual focused interventions have been examined, and research has demonstrated that: after both mail and telephone based brief MI intervention women reported a significant decrease in risk for AEP between baseline and 6 month follow up (100% to 68.8%) [12], however, a single session MI intervention to prevent AEP was less effective than a multi-session intervention [13]. While multiple sessions and a face-to-face format may be more effective, brief and remote delivered interventions have the potential to reach more women and may be preferred by women for privacy and convenience.

### Multiple risk factor interventions

Research has also examined the effectiveness of including alcohol as one of multiple risks addressed during preconception interventions and have demonstrated: women who received tailored advice on preconception health after a risk assessment delivered in a family practice setting reduced their alcohol use in the first 3 months of pregnancy and had lower adverse pregnancy outcomes (16% vs. 20%) [14]; and following a tailored web based intervention to change women's knowledge and behaviours associated with risks for adverse pregnancy outcomes women decrease their alcohol consumption at the 6 month follow up (-46.5%, 95% CI -53.28; -38.75) [15]. Preconception interventions delivered to couples seeking fertility treatment have also demonstrated a reduction in alcohol use. Results of a MI intervention for couples in Australia demonstrate that half of the women stopped drinking alcohol, and all but one of the men reduced drinking to the recommended national guidelines [16]. Following a two session lifestyle counselling intervention to address the risks identified during a preconception health assessment, both men and women attending a fertility clinic in the Netherlands decreased alcohol use [17].

However, some studies have not shown a significant reduction in alcohol use after multiple risk factor interventions. In a US study, women who received advice regarding folic acid use report greater use, but women who received messaging regarding physical activity, obesity, tobacco and substance use did not report any significant difference in behavior compared to women not receiving these messages [18]. A systematic review of studies that compared routine pre-pregnancy health promotion with no pre-pregnancy care or usual care on improving pregnancy outcomes found only limited evidence that preconception health promotion interventions were associated with lower rates of binge drinking (risk ratio 1.24, 95% CI 1.06 to 1.44) [19].

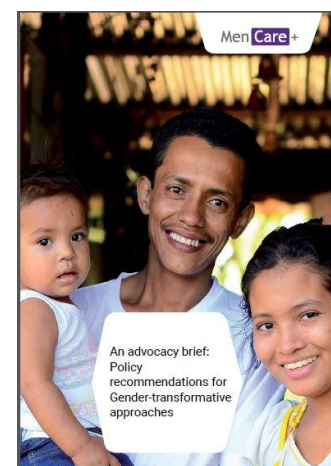
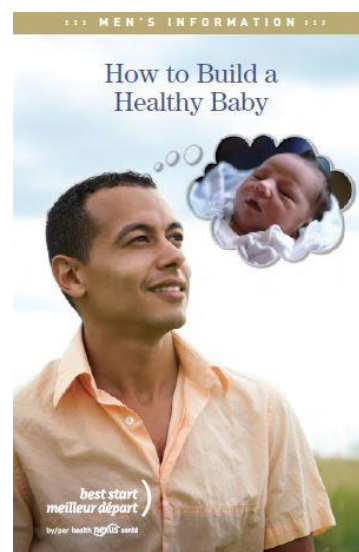
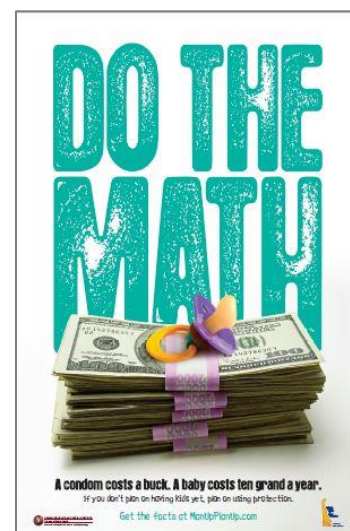


## Discussion

- For preconception support to be integrated in health care, an overall shift is required to include a focus on preventive/health promoting interventions and to prioritize women's and men's overall health across the lifespan
- Preconception interventions can be incorporated into care already being provided, not siloed, and may be done by a wide range of health care and prevention providers: midwives, nurses, anti-violence workers, sexual health care providers, community providers. . . . not only by physicians
- Addressing the social determinants of health is fundamental to preconception health, requiring a change in focus beyond individual interventions only, to include community and policy level strategies and initiatives
- There is a need to:
  - Consider who will provide preconception interventions and who will train and engage providers
  - Incorporate "universal education on consensual sex, healthy relationships, and harm reduction" [20]
  - Further develop and evaluate programs for men, lesbians, single women, Indigenous women, women with violence concerns . . .
  - Incorporate the potential of online tools and interventions
- Preconception interventions/support need to be gender transformative (address gender relations at the same time as health), and not mimic gender-exploitative prenatal health promotion messages

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