# Legalization of Cannabis: Implications for Maternal and Infant Health in BC and Emerging Best Practice for Response

Nancy Poole, PhD

Healthy Mothers and Babies Conference

2018

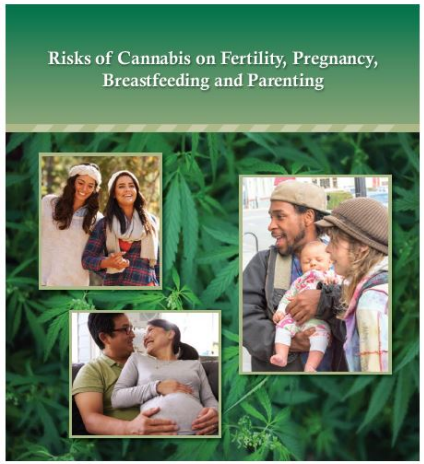
# OBJECTIVES

- Review recent research on the mechanisms of action of cannabis on fetal development and pregnancy outcomes.
- Highlight best practices for prevention and harm reduction, trauma-informed interventions and potential implications for providers and pregnant women in BC

# Health effects of cannabis – CEWH research

For Best Start/Health Nexus we reviewed the literature on the effects of cannabis in the perinatal period

- Natalie Hemsing, MA
- Lorraine Greaves, PhD
- Nancy Poole, PhD
- Rose Schmidt, MPH




## Methods

- 2007-2017
- Medline; CINAHL
  - fertility
  - pregnancy
  - birth outcomes
  - breastfeeding
  - child development
  - parenting

n= 60 articles

## MATERNAL AND NEWBORN HEALTH OUTCOMES

| Outcomes | Significant Association | No Significant Association |
|---|---|---|
| **Maternal asthma** | | Chabarria et al 2016 |
| **Maternal anemia** | Gunn et al 2016 | |
| **Low birth weight** | Brown et al 2016; El Marroun et al 2009; Gunn et al 2016; Hayatbakhsh et al 2012; NASCM 2017 | Conner et al 2015; Chabarria et al 2016; De Moraes et al 2006; Mark et al 2016; Schempf 2008; Van Gelder et al 2010; Warshak et al 2015 |
| **Preterm birth** | Hayatbakhsh et al 2012<br>Leemaqz et al 2016 | Conner et al 2015; Chabarria et al 2016; Mark et al 2016; Van Gelder et al 2010; Warshak et al 2015 |
| **Stillbirth** | Varner et al 2010 | Conner et al 2015; Warshak et al 2015; Dotters-Katz et al 2016 |
| **Small for gestational age** | Brown et al 2016; Hayatbakhsh et al 2012; Warshak et al 2015; El Marroun et al 2009 | Van Gelder et al 2010 |
| **NICU placement** | Hayatbakhsh et al 2012; Warshak et al 2015 | Mark et al 2016 |
| **Birth defects** | Van Gelder et al 2009 | Warshak et al 2015 |

| CHILD DEVELOPMENT OUTCOMES | |
|---|---|
| Chakraborty et al. 2015<br>New Zealand | **frequent maternal use associated with better global motion perception** |
| El Marroun et al 2010<br>Holland: Gen. R | **no association with cognitive function/ behavioural problems age 3** |
| Day et al. 2011; Goldschmidt et al 2004, 2008; Sonon et al 2015; Wilford et al 2010<br>USA: MHPCD | • **first trimester heavy use associated with subtle deficits in verbal reasoning scores at age 6**<br>• **offspring of heavier users more likely to report delinquent behavior at age 14**<br>• **subtle negative effects on school performance**<br>• **subtle deficits in visual–motor coordination** |
| Smith et al 2006; 2016<br>Canada: OPPS | **no differences on visuospatial task performance; observed differences in neural functioning/ blood flow on fMRI** |
| Teyhan et al 2017<br>Australia | **Maternal & paternal use not associated with educational attainment** |
| Zammit et al 2009<br>UK | **Maternal use not associated with psychotic symptoms at age 12** |

# Breastfeeding

- In animal studies, inhibits lactation
- Systematic review (Ordean 2014)
  - One study reported infant development delays at year 1.
  - One study reported no effect on weaning, growth, mental or motor development
- confounded by prenatal use

# Parenting

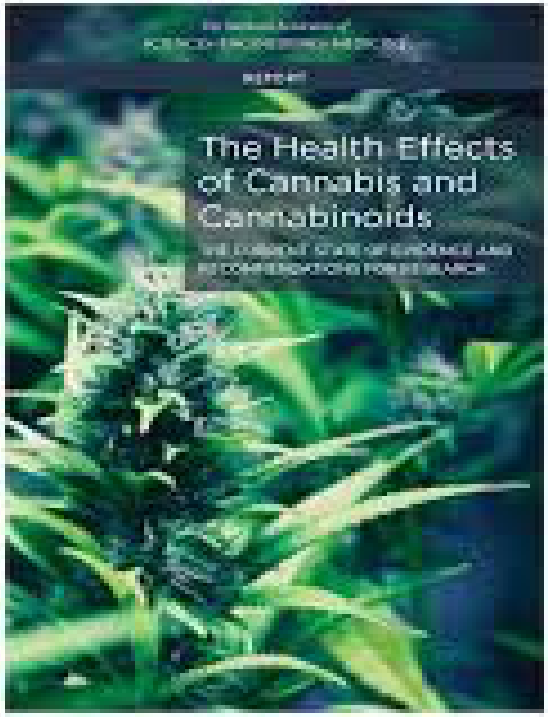
- Prevention of accidental use by children
- qualitative study: parental cannabis use, perceptions of benefits and harm, and harm reduction strategies (Donoghue 2015)
  - Parents reported no adverse impacts on parenting
  - Yet, children's awareness of use and access occurred earlier than parents thought
  - Harm reduction strategies parents used: being discreet, using less potent strains, prioritizing family & work, not mixing with tobacco

# Methodological Challenges

- Confounding factors
  - Tobacco, alcohol, other substances
  - Socio-demographics
- Small samples of women who use prenatally
- Clinical trials unethical
- Self-report
- Lack of data on quantity, potency, method of ingestion
- interpreting animal studies


**MIXED evidence for association with decreased birth weight**

**MODERATE evidence of association with reduced cognitive function in exposed offspring**




**SUBSTANTIAL evidence of an association with lower birth weight**

**INSUFFICIENT evidence of an association with later outcomes in the offspring (e.g., SIDS, cognition/academic achievement, and later substance use).**

# Public Health Response: USA

- 2016 review of public health agency websites found messaging on cannabis & pregnancy from 1 federal agency and 10 state agencies (Jarlenski et al 2017)
  - adverse health effects
  - few addressed scientific uncertainty
  - < half provided resources
- Limited messaging may reflect challenges with the evidence

# Colorado: Good to Know Campaign

## MARIJUANA USE WHILE PREGNANT

**Know how marijuana use can affect pregnant women and their babies.**

What you eat or smoke while pregnant can reach your baby. You're probably aware that eating vegetables can help your baby's development. And in the same way, using marijuana can harm your baby. It may have a long-term impact on your child's ability to learn.

If you are pregnant and have been using marijuana, talk to your doctor to get the support you need to make the healthiest choice. Your doctor can help connect you with treatments that are confidential and nonjudgmental.

PASSES THROUGH TO BABY.

PASSES THROUGH TO BABY.

BRINGS YOU A BUNDLE OF JOY.

BRINGS ON A BUNDLE OF QUESTIONS.

There is no known safe amount of marijuana use while pregnant. That's because, no matter how it's used (smoked, eaten, etc.), THC (Tetrahydrocannabinol, the chemical that makes you "high") gets passed to your baby.

Secondhand smoke from marijuana can also be harmful because it has many of the same cancer-causing chemicals as tobacco smoke.

GOOD to KNOW

To learn more, visit **GoodToKnowColorado.com/Baby.**

# A FRAMEWORK FOR THE LEGALIZATION AND REGULATION OF CANNABIS IN CANADA

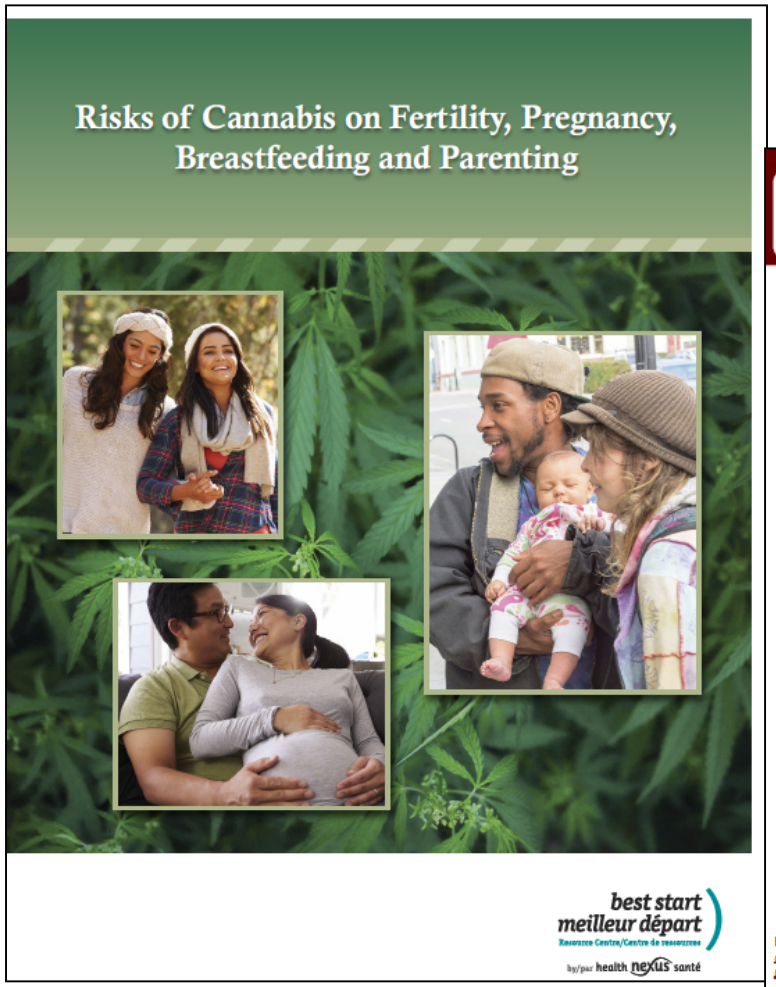
## THE FINAL REPORT OF THE TASK FORCE ON CANNABIS LEGALIZATION AND REGULATION

Government of Canada / Gouvernement du Canada

Canada

**"Studies have found associations…between frequent cannabis use during pregnancy and certain adverse cognitive and behavioural outcomes in children" (p.16)**

# Some Canadian examples




THE SOCIETY OF OBSTETRICIANS AND GYNAECOLOGISTS OF CANADA
LA SOCIÉTÉ DES OBSTÉTRICIENS ET GYNÉCOLOGUES DU CANADA

May 9th, 2017

**SOGC Position Statement: Marijuana Use during Pregnancy**

Cannabis (*marijuana*) is the most commonly used illicit drug among pregnant women. Legalization of cannabis in Canada may reinforce the reputation of cannabis being a harmless drug and result in an increase of use among pregnant women.

Evidence-based data has shown that cannabis use during pregnancy can adversely affect the growth and development of the baby, and lead to long-term learning and behavioural consequences. There have

## Cannabis Use During Pregnancy

CanFASD
CANADA FASD RESEARCH NETWORK

May 2017

### Effects of Cannabis Use during Pregnancy

The Canadian government plans to legalize cannabis by July 1, 2018. With the impending legalization of cannabis, it is important to note that the legal use of cannabis does not necessarily make it safe. There is no known safe amount of cannabis use during pregnancy.

Currently, there is limited Canadian data about the prevalence of cannabis use during pregnancy. Cannabis use among women in Canada is on the rise, with approximately 11% of women of childbearing age reporting cannabis use in the past year according to Health Canada (2013). Cannabis use is higher among younger women; 29.7% of women age 20-24 years report past year use. It is estimated that about 5% of pregnant women use illicit drugs during pregnancy, though it is not known what percentage use cannabis specifically.

Research on cannabis use during pregnancy demonstrates some potential negative outcomes associated with heavy use (one or more joints per day). Cannabis use during pregnancy may:

- Affect the ability to become pregnant as a result of changes in the menstrual cycle for women and lower sperm count and poorer sperm quality in men
- Increase the risk of preterm birth
- Lead to lower birth weight of the baby
- Be associated with longer-term developmental effects in children, adolescents, and adults including decreases in memory function, attention, and reasoning and problem solving skills, and increases in hyperactive behaviour and future substance use

It is important to note that most of the current research evidence presents findings of studies where cannabis use was administered by smoking. Little is known about exposure through other routes of use. Current evidence is also limited by: reliance on self-report, the presence of cofounding factors, and small samples of women who use cannabis prenatally. While more research is needed, both in quantity and quality, it is prudent to advise pregnant women and women of childbearing age of the potential long-term adverse developmental and behavioural effects associated with cannabis use during pregnancy.

For more information about cannabis use during pregnancy, please visit: http://www.bestbeginnings.org/resources/alc_reduction/RisksOfCannabis_A30-E.pdf or https://www.canada.ca/en/health-canada/services/substance-abuse/controlled-illegal-drugs/health-risks-of-marijuana-use.html

For more information about the Canada FASD Research Network, including other policy documents about FASD and substance use during pregnancy, please visit: www.canfasd.ca

Evidence on the long-term effects of cannabis use during pregnancy largely comes from three prospective, longitudinal cohort studies that evaluated the outcomes of cannabis use during pregnancy on child development and behaviour. These studies include:

- Ottawa Prenatal Prospective Study (OPPS; Fried, 1995, 2002)
- Maternal Health Practices and Child Development (MHPCD) Study (Day, Leech, & Goldschmidt, 2012; Day et al., 1991)
- Generation R Study (El Marroun et al., 2009)

The results of these studies, and their comparisons across groups, need to be interpreted with caution, as the tetrahydrocannabinol (THC) content in cannabis has increased over the past few decades. Furthermore, the available research findings on cannabis use during pregnancy are limited by a number of factors. This research demonstrates an association, but not causality; confounding factors including polysubstance use, and social and economic factors, may influence outcomes. For example, cannabis is often used with other drugs, such as alcohol and tobacco, both of which have negative effects on pregnancy and the health of the fetus. In addition, significant effects were largely associated with heavy, prolonged use. Clearly there is a critical need for further research addressing the potential long-term consequences associated with cannabis use during pregnancy.

While no pattern of congenital anomalies has been linked to cannabis use by pregnant women, cannabis can increase the effects of alcohol use during pregnancy. Developing clinical guidelines for health care professionals on discussing the health effects of cannabis for women and pregnant women will be important, and these need to be linked to discussions on the effects of alcohol, tobacco, opioids, and other substances.

# To inform messaging - further research needed

- amount, frequency,  potency, method of ingestion, timing
- medical/ therapeutic use; low to moderate use
- paternal cannabis use
- corroborate self-report with biomarkers
- cannabis use alone; pooling data

# Summary regarding messaging

- Given evidence gaps and unknown risks, the safest approach is to support women & their partners not to use cannabis when trying to conceive, during pregnancy and breastfeeding & to take precautions while parenting
- Unbiased education & messaging
- Non-judgmental: identification of use & support
  - Beginning in preconception
  - Reduce stigma & increase opportunities for dialogue
  - Address co-use with tobacco, alcohol
  - Holistic support
  - Discuss risks & benefits regarding medicinal use
  - Safe storage, parenting, driving

# Brief support on cannabis

- From our work on other substances we already know some strategies regarding brief support
- Centre of Excellence is doing a national project about brief support on alcohol, tobacco, cannabis and prescription opioids
- Financial support from the Public Health Agency of Canada

Dialogue + Action
Women and Substance Use

# Goal

To inspire and facilitate health and social care providers to incorporate brief intervention on alcohol (and tobacco, cannabis and prescription opioids) in their daily practice with girls, women and their partners, in order to promote women's and men's health, and prevent FASD.

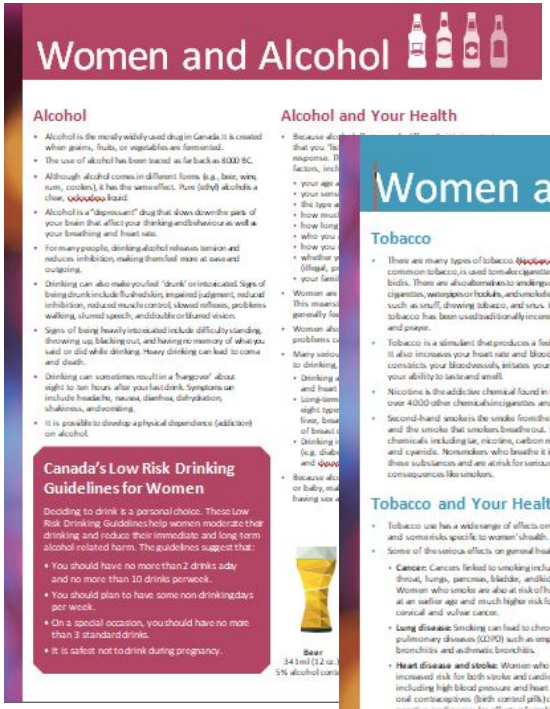
Dialogue + Action
Women and Substance Use

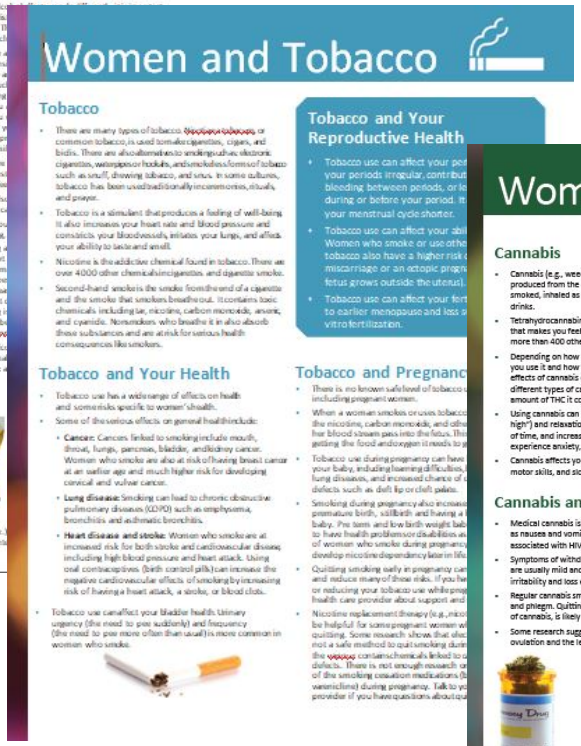
## Professionals engaged in 13 Regional meetings

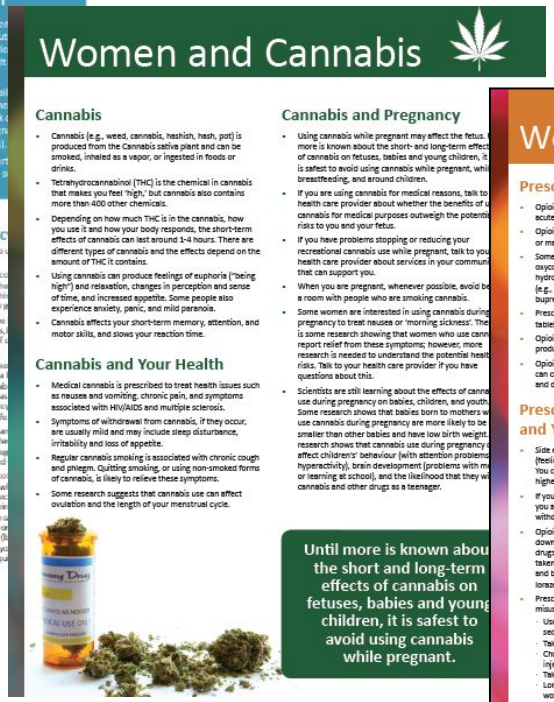
1. Midwives
2. Nurses
3. Physicians
4. Pregnancy outreach workers
5. Sexual health workers
6. Substance use service providers
7. Violence against women service providers
8. Indigenous service providers

1. Vancouver
2. Edmonton
3. Saskatoon
4. Winnipeg
5. Thunder Bay
6. Toronto
7. Halifax
8. Moncton
9. Charlottetown
10. St John's
11. Whitehorse
12. Yellowknife
13. Iqaluit

Dialogue + Action
Women and Substance Use



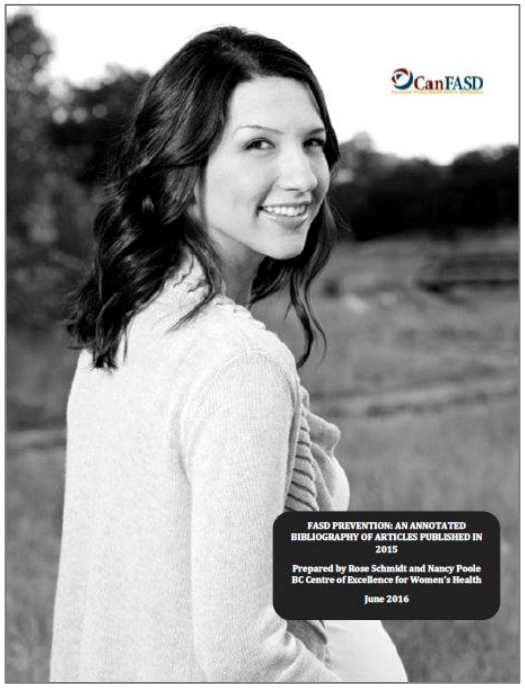





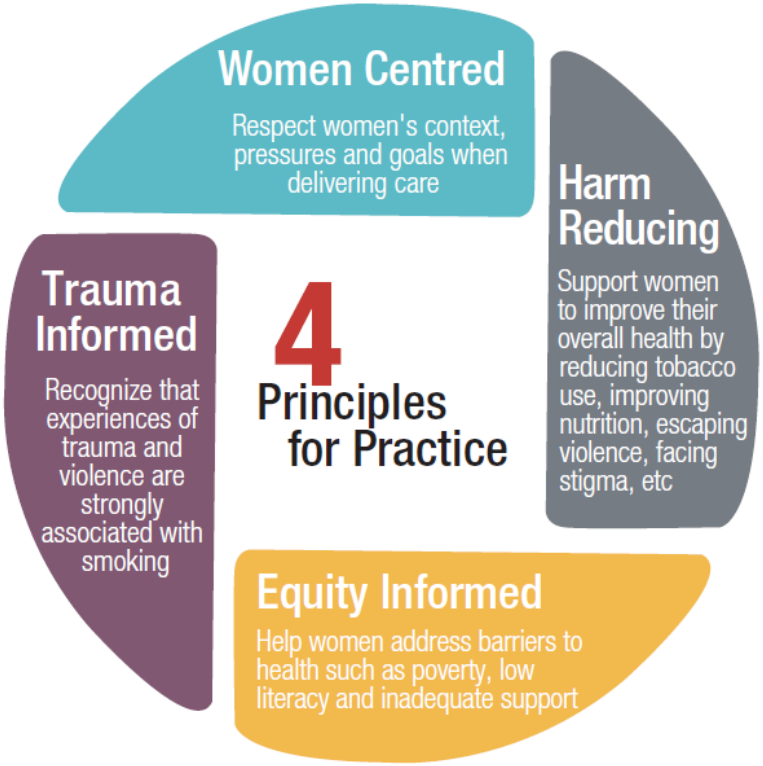
We summarized the evidence related to harmful effects of these 4 substances - for women in general, in pregnancy, when breastfeeding and when parenting. downloadable from http://bccewh.bc.ca

We identified, and summarized available academic evidence, tools and best practices related to the effects of, and how to do brief intervention on, legal substances

We created summaries of evidence for brief intervention by profession (soon to be released)




Annotated bibliography of articles on 4 levels of FASD prevention, published annually, downloadable from www.canfasd.ca




Alberta Health Services
http://www.albertaquits.ca/files/AB/files/library/Rep_Yrs_Infographic_Final_28229.pdf

Dialogue + Action
Women and Substance Use

# Brief support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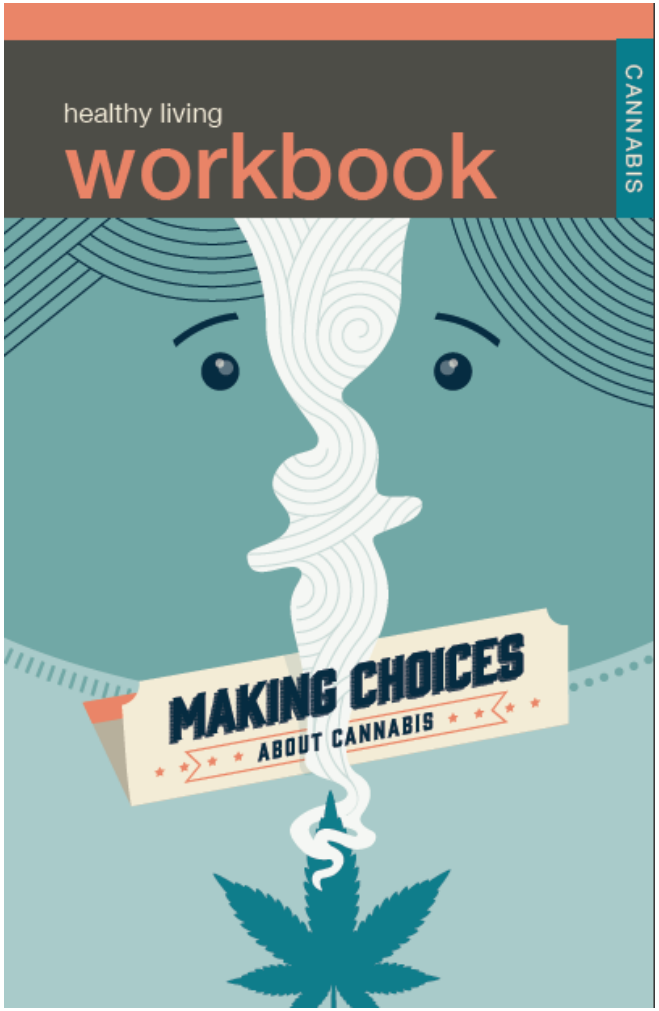
- de Dios, M. A., Herman, D. S., Britton, W. B., Hagerty, C. E., Anderson, B. J., & Stein, M. D. (2012). Motivational and mindfulness intervention for young adult female marijuana users. *Journal of Substance Abuse Treatment, 42*(1), 56-64. doi:10.1016/j.jsat.2011.08.001

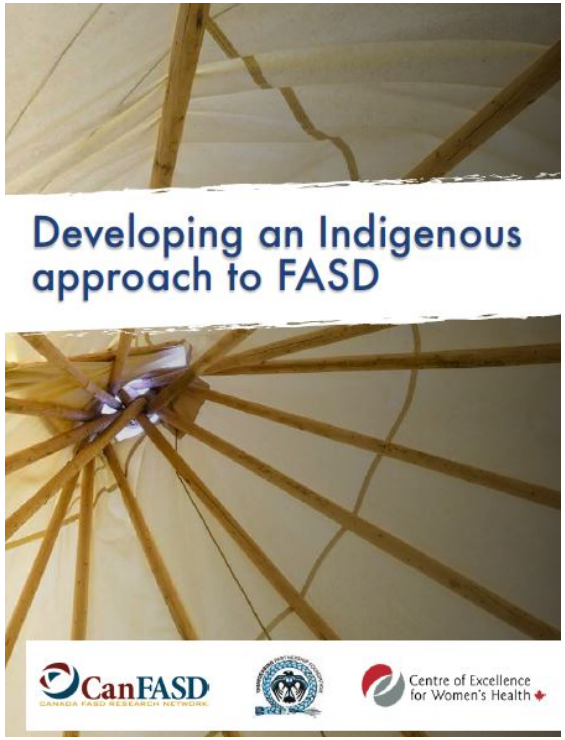



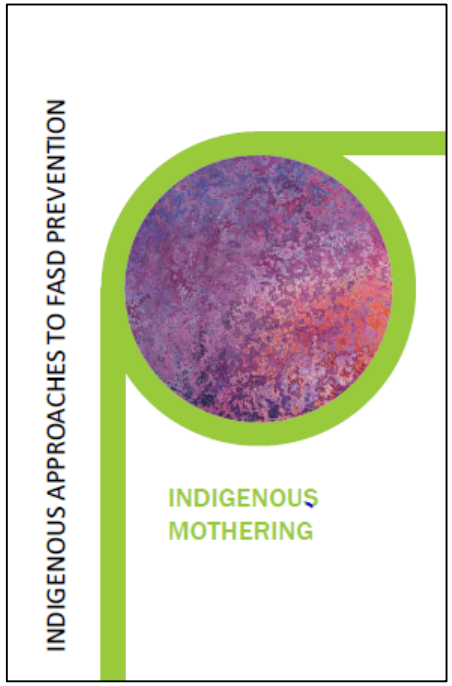
# Multi-service programs serving pregnant women at risk

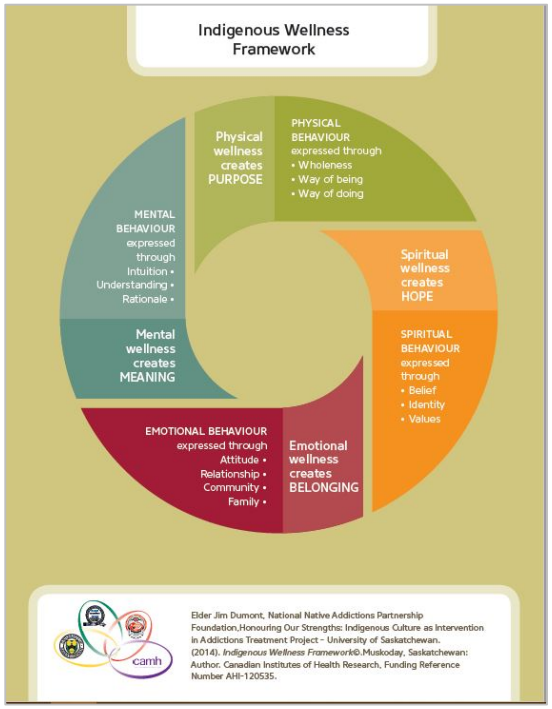
8 programs across Canada including 3 in BC – HerWay Home, Sheway and Maxxine Wright

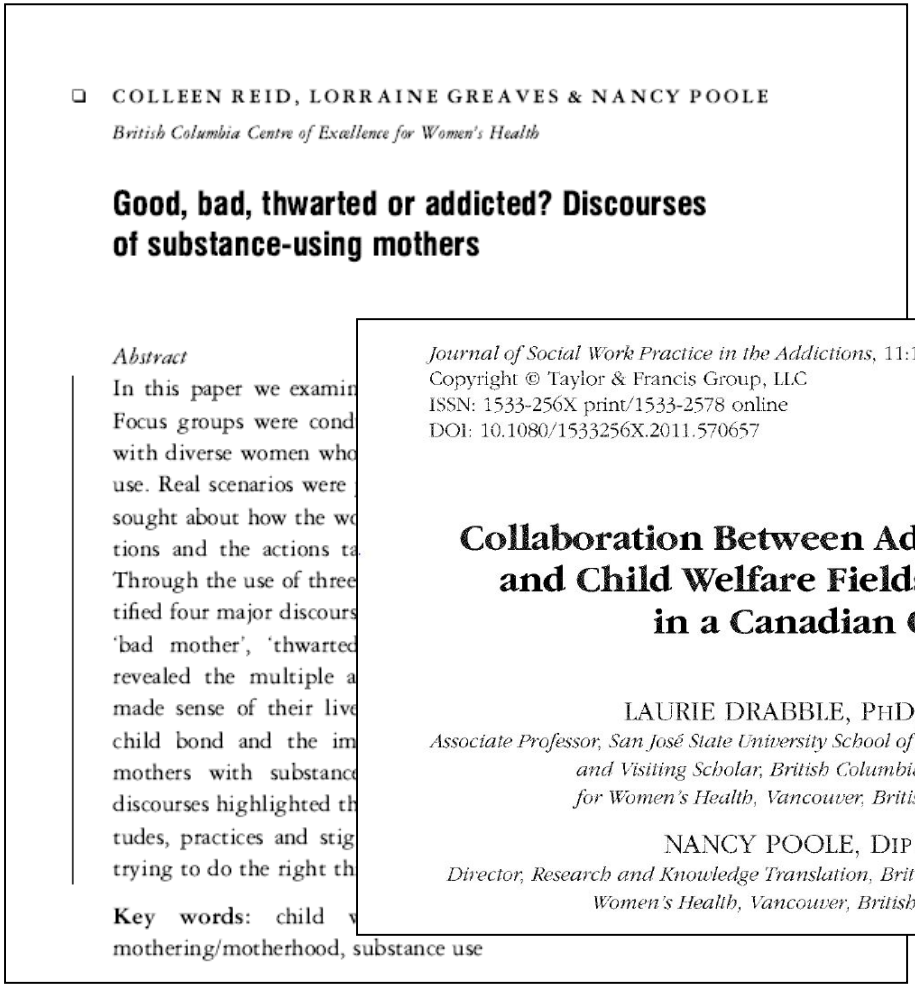
Approaches being studied in multi-site evaluation led by Deborah Rutman, Carol Hubberstey, Marilyn Van Bibber and Nancy Poole

# Holistic wellness oriented approaches addressing TRC Call to Action #33





COLLEEN REID, LORRAINE GREAVES & NANCY POOLE

*British Columbia Centre of Excellence for Women's Health*

## Good, bad, thwarted or addicted? Discourses of substance-using mothers

*Abstract*

In this paper we examin
Focus groups were cond
with diverse women who
use. Real scenarios were
sought about how the wo
tions and the actions ta
Through the use of three
tified four major discours
'bad mother', 'thwarted
revealed the multiple a
made sense of their live
child bond and the im
mothers with substanc
discourses highlighted th
tudes, practices and stig
trying to do the right th

**Key words:** child
mothering/motherhood, substance use



*Journal of Social Work Practice in the Addictions*, 11:124–149, 2011
Copyright © Taylor & Francis Group, LLC
ISSN: 1533-256X print/1533-2578 online
DOI: 10.1080/1533256X.2011.570657

Routledge
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## Collaboration Between Addiction Treatment and Child Welfare Fields: Opportunities in a Canadian Context

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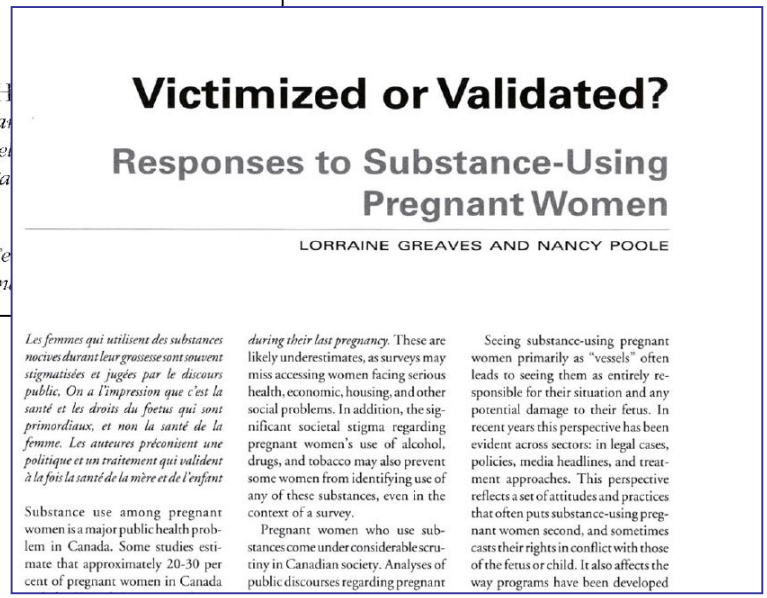

## Victimized or Validated?

### Responses to Substance-Using Pregnant Women

LORRAINE GREAVES AND NANCY POOLE

*Les femmes qui utilisent des substances nocives durant leur grossesse sont souvent stigmatisées et jugées par le discours public. On a l'impression que c'est la santé et les droits du foetus qui sont primordiaux, et non la santé de la femme. Les auteures préconisent une politique et un traitement qui valident à la fois la santé de la mère et de l'enfant*

Substance use among pregnant women is a major public health problem in Canada. Some studies estimate that approximately 20-30 per cent of pregnant women in Canada

*during their last pregnancy.* These are likely underestimates, as surveys may miss accessing women facing serious health, economic, housing, and other social problems. In addition, the significant societal stigma regarding pregnant women's use of alcohol, drugs, and tobacco may also prevent some women from identifying use of any of these substances, even in the context of a survey.

Pregnant women who use substances come under considerable scrutiny in Canadian society. Analyses of public discourses regarding pregnant

Seeing substance-using pregnant women primarily as "vessels" often leads to seeing them as entirely responsible for their situation and any potential damage to their fetus. In recent years this perspective has been evident across sectors: in legal cases, policies, media headlines, and treatment approaches. This perspective reflects a set of attitudes and practices that often puts substance-using pregnant women second, and sometimes casts their rights in conflict with those of the fetus or child. It also affects the way programs have been developed

# Contact CEWH

- Website: Dialogue to Action project http://bccewh.bc.ca/featured-projects/dialogue-to-action-on-discussing-alcohol-with-women-project-2/
- Blog: Girls Women Alcohol and Pregnancy https://fasdprevention.wordpress.com/
- Email:
  - Nancy Poole npoole@cw.bc.ca

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