PATHWAYS TO FETAL ALCOHOL SPECTRUM DISORDER IN ABORIGINAL COMMUNITIES

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ABSTRACT / RÉSUMÉ

Fetal alcohol spectrum disorder (FASD)-related stigma refers to discrimination directed at substance abusing pregnant women and their affected children throughout the lifespan. Despite a lack of information on the prevalence of FASD in Canadian Aboriginal communities, much of this discrimination is targeted at Aboriginal people and communities. This paper describes the knowledge base surrounding the topic of FASD in an effort to target the causes of understanding and misunderstanding, specifically those that give rise to FASD-related stigma targeted at Aboriginal people and communities. Discussion includes: epidemiology, cost to society and individuals, and evidence of the extent of government commitment to programming and prevention. Risk factors and the relationship between drinking in pregnancy and alcoholism in general are examined. The concepts of compromising environments and socio-economic inequities are introduced as the broader environments within which FASD emerges in Aboriginal communities. Recommendations for policy and practice based on interviews and focus groups from community-based research are provided.

L'expression « stigmatisation liée à l'ensemble des troubles causés par l'alcoolisation fœtale (ETCAF) » fait référence à la discrimination à l'égard des femmes faisant un abus de substances durant leur grossesse et de leurs enfants touchés ensuite par ces troubles durant toute leur vie. Malgré un manque d'information sur la prévalence de l'ETCAF dans les collectivités autochtones canadiennes, cette discrimination est dirigée surtout vers les collectivités autochtones. Cette communication décrit la base de connaissances concernant l'ETCAF afin de saisir les raisons de la compréhension ou la méprise, notamment celles à l'origine de la stigmatisation des peuples et communautés autochtones liée à l'ensemble des troubles causés par l'alcoolisme fœtale. Sujets analysés, entre autres : l'épidémiologie, ce qui en coûte à la société et aux particuliers, la preuve de la mesure dans laquelle les gouvernements s'intéressent à la prévention et offrent des programmes. Les facteurs de risque et la relation entre l'alcoolisme durant la grossesse et l'alcoolisme en général sont également examinés. Les notions d'environnements à risque et d'inégalités socioéconomiques sont présentées comme des facteurs généraux favorisant l'apparition de l'ETCAF dans les collectivités autochtones. Les auteurs formulent également des recommandations en matière de politiques et de pratiques basées sur des entrevues et des réunions de groupes de consultation tenues lors de recherches dans les collectivités.

INTRODUCTION

Fetal alcohol spectrum disorder (FASD)-related stigma refers to discrimination directed at substance abusing pregnant women and their affected children throughout the lifespan. Despite a lack of information on the prevalence of FASD in Canadian Aboriginal communities, much of this discrimination is targeted at Aboriginal people and communities. An article in the *Globe and Mail* published August 3, 2009, quoted University of Toronto law professor Kent Roach on his concern that this discrimination leads to the imprisonment of a disproportionate number of Aboriginal people, for whom alcohol consumption is a problem (Makin 2009). In Winnipeg, Manitoba, 2007, media attention centred on the behaviours of FASD-affected youth when a group of teenagers jumped into stolen vehicles and played a game of "try-and-hit-pedestrians;" quickly the youth became persons feared by the public and subsequent discussion transgressed towards the need for stricter legal penalties for misconduct by FASD-afflicted individuals. The outcome of this phenomenon is that as a society we tend to miss opportunities to improve a total population's health and safety: shared spaces and responsibilities are disregarded and those most vulnerable to societal inequities are blamed for its consequences.

This paper describes the knowledge base surrounding the topic of FASD in an effort to target the causes of understanding and misunderstanding, specifically those that give rise to FASD-related stigma targeted at Aboriginal people and communities. Discussion includes: epidemiology, cost to society and individuals, and evidence of the extent of government commitment to programming and prevention. Risk factors and the relationship between drinking in pregnancy and alcoholism in general are examined. We introduce the notion of compromising environments and socio-economic inequities as the broader environments within which FASD emerges in Aboriginal communities. Recommendations for policy and practice based on interviews and focus groups from community-based research are provided.

RESEARCHING FASD

Stigmatization of the disorder has attracted scientific and political controversy. Recently, epidemiologists began to abandon population-level diagnostic studies in favour of qualitative, community-led research methods (e.g. Massotti et al. 2006). Diagnosticians began to worry that their efforts were further victimizing those who needed diagnosis the most. Mary Cox-Millar, program director of the Clinic for Alcohol and Drug Exposed Children, Children's Hospital of Winnipeg stated that the risk of the diagnostic research was that it presented a power imbalance that could contradict the value of the work. What was necessary prior to the diagnosis of children at a population level was research to raise a community's readiness to study the problem. Ms. Cox-Millar is particularly interested in issues that *surround* effective diagnosis including community partnership development and mother-centred approaches to diagnosis and care (pers. comm., December 2007).

Issues pertaining to FASD in Aboriginal communities relate back to historical and perpetual colonization – a way of thinking that is replayed in Western scientific methodologies (Tuhiwai Smith 1999). FASD is intergenerationally linked back to residential school experiences, encompassing Canadian child welfare policies and practices:

> The residential school system was a central tool of the colonialist government to achieve their goals, however, their assault did not end with the closure of the last school. Removal of Aboriginal children from their parents has continued to present day, with Aboriginal children being over-represented throughout Canadian child welfare systems... At the centre of this issue are Aboriginal parents, particularly mothers, who are deemed by welfare agencies to be unable to "adequately" care for their children. (Tait 2003, 85)

METHODOLOGY

This paper is a review of data collected through interviews and focus groups with participants of Manitoba First Nation maternal and child health programs (Aboriginal Head Start, Canadian Prenatal Nutrition Program and Maternal Child Health) from 1998-2009. The studies focused on various maternal and child health topics and did not focus directly on FASD. All information pertaining to FASD in the communities was analyzed for content and discussed here as an investigatory or preliminary research. The goal of such a method is to bring research to the level of community experience as a powerful strategy for social change.

DESCRIPTION OF FASD

FASD is a serious health and social concern to Canadians (Chudley et al. 2005). While it encompasses several diagnostic terms, it is not, in itself, a diagnosis but an umbrella term used to refer to the spectrum of impairments that can be caused by prenatal exposure to alcohol

including physical, mental, behavioural, and learning disabilities (Abel 1995; Streissguth et al. 2004; Streissguth et al. 1996). Research focuses on understanding the nature and extent of impact that the disorder has on lifespan development. Notwithstanding the large amount of activity surrounding clinical work, understanding deficits and disturbances associated with FASD is far from complete (Bertrand 2009).

Of concern are the cognitive, social, and behavioural impairments that often lead to adverse life outcomes known as the *secondary symptoms of FASD*, including mental health issues, trouble with the law, and disrupted education. "Secondary symptoms" perpetuate similar circumstances familiar to individuals suffering from the post-traumatic stress syndrome of residential schools. Life circumstances, societal injustices, institutional, and familial abuses are linked to causes and outcomes of FASD. For example:

> In relationship to intergenerational links to substance abuse and pregnancy, and FAS/ARBEs [FASD], it is clear that the residential school system contributed to… substance abuse, but also to factors shown to be linked to alcohol abuse, such as child and adult physical, emotional and sexual abuse, mental health problems and family dysfunction. The impact of residential schools can also be linked to risk factors for poor pregnancy outcomes among women who abuse alcohol, such as poor health, low levels of education and chronic poverty. (Tait 2003, xviii)

It makes sense that negative experiences at the residential schools followed by severe interferences of the child welfare system would be linked to the kind of issues connected with FASD. The question is: by what mechanism(s) are they related? The link between social climates and health; interactions between human and ecological systems; and the effects of historical and political processes on local environments and the structuring of health inequities are relevant to understanding the nature and extent of FASD in Aboriginal communities. Abel, writing on social inequities and fetal alcohol syndrome (FAS) in the United States, believes that FAS is not an equal opportunity disorder and has made the connection between racism and FAS. He maintains that poverty, "provides the kind of host environment that exacerbates alcohol's toxic actions" (1995). Governance structures, social relations, economic and political agendas that underlie social programming affect health, manifesting upon the body as FASD.

EPIDEMIOLOGY

Notwithstanding ongoing prevention and education efforts targeting alcohol-exposed pregnancies, babies with FASD continue to be born. On prevalence, Bertrand writes:

> FASDs are not as rare as generally thought and studies of particularly vulnerable populations have yielded prevalence estimates that exceed those of other, more widely recognized developmental disabilities. (2009, 987)

Worldwide incidence rates for FAS and FASD are estimated at 1.9 and 3-5 per 1000 live births respectively. Corresponding rates for Canada are 1-3 and 3-9 per 1000 live births (Thanh and Jonsson 2009). In Ontario, population 12.8 million, the estimated prevalence of FASD is 116,480 cases, of which 11% are severe cases and 89% are mild cases (Hopkins et al. 2008). Health practitioners working in First Nation communities consider FASD a significant problem. According to Dr. Hall, former obstetrician and director of the northern obstetric outreach program, "Fetal alcohol is a huge problem and a fundamental cause of the elevated risk in First Nation communities" (Eni 2005). Few prevalence rates are recorded in Aboriginal populations. What statistics are available are limited (i.e. they lack generalizability and are dated). The studies are, however, oft quoted however due to their alarming prevalence rates (see Assante and Nelms-Matzke 1985; Robinson et al. 1987; Square 1997; Williams et al. 1999).

COST AND POLITICAL COMMITMENT

Prevalence rates are alarming for two main reasons. First, FASD is entirely preventable and second, it is very expensive. Expenses are incurred by individuals in lifetime opportunity losses and to society in general. A Canadian study by Stade and colleagues (2006) estimated the cost of FASD through inclusion of six cost components: medical, education, social services, direct costs to the patient/family, productivity losses, and externalizing behaviours (e.g. acts of violence and stealing). Results indicated a profound economic burden of prenatal exposure to alcohol. In the year the study was conducted, the adjusted average annual costs per child with FASD between the ages of 1 to 21 years was estimated at CA$14,342. Cost determination included severity of condition, age and geographical setting. The annual cost of FASD to Canada of individuals up to 21 years of age was $344,208,000 (based on a rate of 3/1000 population and an overall population of 8 million). Hutson (2006) went further, extrapolating to age 65, determining a 3-4 billion dollar annual cost.

Addressing FASD is a Canadian government priority. FASD programming for First Nation and Inuit communities is delivered through the Health Canada, First Nation Inuit Health Branch Fetal Alcohol Spectrum Disorder (FNIHB FASD) Program. Its focus is on reducing the number of FASD births and improving the quality of life of those affected. Goals are believed to be achievable through education to increase awareness and community readiness to deal with FASD-targeted initiatives for those at-risk of having a child affected with FASD, and collaborative initiatives with partners on issues such as early identification, assessment and diagnosis (Public Health Agency of Canada 2007). On-reserve, programs focusing on FASD include: *Maternal Child Health*, *Canadian Prenatal Nutrition Program* (SF-MCH), *Stop FASD*, and *Aboriginal Head Start*. Additionally, services are offered through health and social services and schools that focus on assessment and diagnostics.

FASD service/program requirements often direct programmers towards integration with related services inside and outside local communities (Eni 2005). Integration program "linkage" was a value that received popular recognition beginning in the late 1990s.

> The concept of "linkages" is an integral part of both this program framework and the First Nation and Inuit Fetal Alcohol Syndrome/Effects. The implementation of both CPNP and FAS/FAE Frameworks in First Nation and Inuit communities will require extensive linkages, coordination with and referrals to other community-based and external health, social and educational services... (FNIHB, CPNP Framework Document 2000, 17-18: qtd. in Eni 2005, 179).

The program linkage requirement is troublesome, particularly to smaller communities. These communities often lack adequate resources. A programmer in the Manitoba Interlake explains, "The communities have nothing. There are no other programs other than CPNP. And with the amount of money allotted they can't seriously offer any kind of programming to moms or their babies" (Eni 2005). In another Manitoba First Nation community, the health director said:

> Our CPNP program receives 15,000 dollars. The program employs a coordinator and she is responsible to develop and deliver both the CPNP and the diabetes prevention program. She has no other staff to support her or help her to develop the programs… (Eni 2005, 180).

"FASD is more than a health problem and requires multiple levels of government to effect meaningful, broad social change. A model that includes interconnections between individual psychologies, community history, Aboriginal self-governance and societal responsibility, is appropriate policy and practice. Universal programs that promote overall health, targeted programs to assist individuals with FASD throughout the lifespan, support women in taking back control over their lives, and build opportunities, should be encouraged"

RISK FACTORS

Several risk factors are associated with an increased likelihood of alcohol/substance abuse in pregnancy. Biological indicators include: advanced maternal age, lower maternal education, greater parity and maternal lifestyle variables, i.e. smoking and substance use (Olsen et al. 1997). Psychological profiles of the mother are studied (May and Gossage 2001). Environmental risk factors include child custody, lower socioeconomic status, paternal drinking, binge drinking during pregnancy, reduced access to perinatal care, inadequate access to perinatal care, inadequate nutrition and a poor develop-

mental environment (Chudley et al. 2005). Eni (2009) discovered a contradictory finding in her research pertaining to maternal age, finding a high incidence of binge drinking among pregnant teens and preteens. Violence in pregnancy, dire poverty, school failure, and perceptions of lacking opportunities "to do anything else" were associated.

Current research typically focuses on maternal behaviours and characteristics, neglecting contextual factors, i.e., social and physical environments. A paper for the Report of the Royal Commission on Aboriginal Peoples (RCAP 1996) identified past policies and practices of the Canadian governments, i.e. residential schools and child welfare "scoops," as primary determinants of physical and psychological illness among Aboriginal people. If prenatal programming, and specifically programming for FASD, was to adhere to this theory, then programming would be developed to mitigate the effects of these and related colonizing events *directly*.

ALCOHOL IN PREGNANCY VS. ALCOHOL IN GENERAL

Alcohol, particularly, binge drinking, is a major concern to Aboriginal communities, affecting individuals throughout the lifespan. In many communities, drinking begins at a young age and the use of substances is increasing among children and teens (interviews with community residents from two northern Manitoba First Nation communities: 2008 transcripts). The National Native Alcohol and Drug Abuse Programs originated in the 1970s as part of the federal government's goal to address alcohol and drug abuse in Aboriginal communities. The program received permanent funding in 1982 due to the "urgent and visible nature of alcohol and drug abuse among First Nations people and Inuit" (Canada 2006).

Whereas alcoholism in general is believed to have largely social underpinnings (e.g. stress of lack of employment, poverty, overcrowding, violence in the home, or social learning and modeling behaviours), alcoholism *in pregnancy* is commonly attributed to a lack of educational awareness regarding the detrimental impact of alcohol upon the foetus. Consequently, there is confusion among programmers regarding appropriate intervention. A prenatal worker stated:

> Pregnant women who are drinking are not treated in the same way as other community members who are alcoholics. Now the worry is about the baby more so than the person doing the drinking. (Eni 2005, 201)

COMPROMISING ENVIRONMENTS

> Two narratives define Aboriginal women and healthy living: hard evidence documents our poor health status while soft logic passes us off as primary health guardians. Understanding this tension requires an insight into the health and social disparities we experience and a description of the linkages between these realities and healthy living policies. Key demographics, biological indicators, lifestyle behavioural issues and social conditions that aggravate Aboriginal women's health have to be weighed against *the totality of our environments* and our desire and potential to contribute as health guardians. Ultimately, "healthy living" for Aboriginal women depends, to a great extent, on meaningful, appropriate and responsive policies. (Stout 2005: emphasis added)

Within constructed environments that include severe imbalances in the allocation of resources and political power and that result in qualities of life ranging from privileged to dismal; health disparities are produced. Research on gender and racial disparities highlight the marginalization of Aboriginal women (Morrow et al. 2007; Stout 2005). Jin and colleagues compared Aboriginal with non-Aboriginal maternal and newborn health outcomes in Saskatchewan, hypothesizing that *Aboriginal status itself* would influence maternal labour/delivery and neonatal outcomes differently from those of a mainstream low socioeconomic group. The researchers stated if they were correct then policies and programs addressing only those health determinants affected by poverty would be insufficient in addressing the unique needs of Aboriginal women in pregnancy and childbirth (2002). Rather than making reference to genetic differences between populations, the researchers pointed to social inequities between racial groups that were to such an extent in Canada that they could be imprinted upon the physical bodies of pregnant women and their babies.

In SF-MCH (2007-2009) discussion groups, women said that although care giving is a priority, they felt they lacked opportunities for self-sufficiency at home. Women talked of challenges to taking up opportunities to improve quality of life (e.g. family responsibilities, poverty, unavailability of local education and employment opportunities, lack of preparation for motherhood/adulthood, lack of familial support). Some discussed challenges associated with drug and alcohol dependencies (e.g. living in

violent relationships, feeling unsupported to change one's lifestyle, feeling that it would be difficult to change or that there are no available options anyway).

Colonialism and capitalism marginalize Aboriginal women. Violence against women was identified as a serious, underlying cause for women's drug and alcohol dependencies. One woman explained; "I drank to forget, each time I drank something else happened to me, so I drank some more" (45 year old grandmother, July 2000). Questions of socio-economic justice are important in considering poor health or the reasons why women sniff intoxicants, drink alcohol, or consume drugs. Intoxicants are most attractive to us when we are trying to mask pain or cope with hopelessness and not when we are happy, healthy, and able to pursue our dreams. It is no coincidence that women who suffer discrimination, violence, sexual abuse, poverty, and other systemic injustices or abuses of power tend to have very high rates of substance abuse and addiction (Shanner 1998). Seen in this way it is impossible to separate "lifestyles," pregnancy and child health from the broader determinants and circumstances of society.

HEALTH EFFECTS OF STIGMATIZATION

Power imbalances inherent in Canadian social structures seep through research methodologies – even community-based and participatory studies are necessarily conducted within these spaces of inequity where powerful researchers investigate the health problems of marginalized individuals/communities. With this, FASD research is a difficult undertaking. A diagnosis of FASD runs the recipient and mother risks of stigmatization and exclusion. Fear of diagnosis includes the threat that disclosure will lead to apprehension of children. This fear is so great that a mother may decide that it is better for a child to forgo diagnosis and, by extension, program supports. Mothers fear judgment and may avoid situations that may leave them feeling judged. The result is an underreporting of FASD that leads to a lack of diagnosis and programming across the spectrum from drug and alcohol treatment to developmental, educational, and living support.

At a community meeting that involved local and regional health, education and social service representatives we were told that FASD in the community is a "huge problem" but that it is:

> Not actually diagnosed in the most part. This is because parents are the only ones who can take the children to the physicians for diagnosis, we can't, we're not allowed to, and many parents won't do it. We know it's a problem but we can't get the resources to do something about it. That's because of the diagnosis. We refer to the children as having "FASD-like symptoms" because of that... it's also because of the stigma that is carried with it as well (young adult male, a programming for children with disabilities committee, June 2009).

In another community, the school FASD program coordinator shared her statistics on prevalence rates saying:

> It is the ones who are in care or who have the least severe form of FASD who we are capturing but the ones with the most risk, they are the ones from the part of the community that suffers the greatest poverty, the non-status ones. They are not bringing their kids in to be diagnosed; those are the ones we worry about. Trust issues and stigma keep people from disclosing; well they feel they have to say, "Yah I drank when I was pregnant" and what would happen to them to admit that. (FASD school program coordinator, August 2004)

AN EMBODIED DISORDER

There is an "embodiment" health disparity in Canadian Aboriginal peoples (Adelson 2005). The embodiment results from a manifestation of external events upon the body much like an unwanted tattoo or a scar; but in this case, the disorder bleeds into the body to impact total human health and lasts through generations. Evidence of an embodiment of FASD, one that forces us to look beyond alcohol consumption as the "cause" of FASD towards inequities, is indicated in the excerpts below.

Example 1: Participants of a prenatal program said some women drank alcohol to relieve stress associated with a lack of adequate housing, turbulent intimate relationships or having reduced employment opportunity (Preventing Violence Against Women Working Group, First Nation Community: September 2005).

Example 2: A young mother of two in her sixth month of pregnancy came into a program one day following a week-long absence saying she was "on a binge." She said, "Really, I didn't want to drink but my friends insisted. When they're at my house banging on the door expecting me to drink, I can't say no or they won't want to

be friends with me anymore" (23 year old woman, Aboriginal Head Start: June 1999).

Example 3: As participants discussed reasons for drinking during pregnancy, one woman said she drank to detach herself from disgust she felt about her own body. Her physical self loathing, she said, stemmed from repeated experiences of sexual abuse. She described a family history that included two generations of care givers raised in residential schools. "I thought of myself as something disgusting and with a baby growing inside me I couldn't stand that feeling" (Aboriginal Head Start, Sharing Circle: October 1998).

Example 4: A mother of four sons and an eight year old daughter told the group, "I couldn't let myself feel a connection with my daughter." Her sons were apprehended by CFS, because they said, "I neglected my children." She was unable to touch her children, "I couldn't even bathe them because I was sexually abused so many times as a child that I wasn't sure how to hold a child" (Sharing Circle Discussions: October 1998).

THE WAY AHEAD

FASD is more than a health problem and requires multiple levels of government to effect meaningful, broad social change. A model that includes interconnections between individual psychologies, community history, Aboriginal self-governance and societal responsibility, is appropriate policy and practice. Universal programs that promote overall health, targeted programs to assist individuals with FASD throughout the lifespan, support women in taking back control over their lives, and build opportunities, should be encouraged. Resources should be provided to communities to develop community-aspired programs that fit with particular interests. Programs should be supported at regional, provincial and national levels. Funding proposals for FASD and substance and alcohol abuse in pregnancy are often developed by communities who use these requests as starting points for community-based programs. This is ideal as it indicates that they are aware of the extent of their problems with particular issues and that they have actively worked through evaluations of health promotion, prevention and intervention strategies. Supporting community self-determination with adequate and sustainable resources is itself a fundamental determinant of maternal and child health.

REFERENCES

Abel, E.L. 1995. An update on incidence of FAS: FAS is not an equal opportunity birth defect. *Neurotoxicology and Teratology* 17 (4): 437-43.

Adelson, N. 2005. The embodiment of inequity: Health disparities in Aboriginal Canada. Supplement 2, *Canadian Journal of Public Health* 96:S45-61.

Assante, K.O., and J. Nelms-Matzke. 1985. Report on the survey of children with chronic handicaps and fetal alcohol syndrome in the Yukon and northwest British Columbia. Whitehorse, YK: Council for Yukon Indians.

Bertrand, J. 2009. Interventions for children with fetal alcohol spectrum disorders (FASDs): Overview of findings for five innovative research projects. *Research in Developmental Disabilities* 30 (5): 986-1006.

Canada. Health Canada. 2006. National Native Alcohol and Drug Abuse Program. http://www.hc-sc.gc.ca/fniah-spnia/substan/ads/nnadap-pnlaada-eng.php.

Chudley, A.E., and J. Conry, J.L. Cook, C. Loock, T. Rosales, and N. LeBlanc. 2005. Fetal alcohol spectrum disorder: Canadian guidelines for diagnosis. *Canadian Medical Association Journal* 172 (5): 1-21.

Eni, R. 2005. An articulation of the standpoint of peer support workers to inform childbearing program supports in Manitoba First Nations communities. PhD diss., Univ. of Manitoba, Winnipeg, Manitoba.

———. 2009. Teen pregnancy in Manitoba First Nation communities. Report prepared for Indian and Northern Affairs Canada.

Hopkins, R.B., J. Paradis, T. Roshankar, J. Bowen, J.E. Tarride, and G. Blackhouse, M. Lim, D. O'Reilly, R. Goeree, and C.J. Longo. 2008. Universal or targeted screening for fetal alcohol exposure: A cost-effectiveness analysis. *Journal of Studies on Alcohol and Drugs* 69 (4): 510-9.

Hutson, J. 2006. A prenatal perspective on the cost of substance abuse in Canada. *Journal of Fetal Alcohol Studies Internationa*l 4 (e9-May 30, 2006): 1-4.

Jin, Y., C. Truman, and D. Johnson. 2002. *Influence of Aboriginal and socioeconomic status on maternal deliveries and birth outcomes.* Edmonton, AB: Alberta Center for Health Services Utilization Analysis. Also available online at http://www.assembly.ab.ca/lao/library/egovdocs/alhsu/2002/134055.pdf.

Makin, K. 2009. Fetal Alcohol victims face discrimination. *Globe and Mail.* August 3.

Massotti, P., M.A. George, K. Szala-Meneok, A. Michel Morton, C. Loock, M. Van Bibber, J. Ranford, M. Fleming, and S. MacLeod. 2006. Preventing Fetal Alcohol Spectrum Disorder in Aboriginal communities: A methods development project. *PLoS Medicine* 3 (1): 0024-29.

May, P.A., and J.P. Gossage. 2001. Estimating the prevalence of fetal alcohol syndrome a summary. *Alcohol Research and Health* 25 (3): 159-68.

Morrow, M., O. Hankivsky, and C. Vacoe. 2007. Women's health in Canada: Critical perspectives on theory and policy. Toronto: Univ. of Toronto Press.

Olsen, J., F. Bolumar, J. Boldsen, and L. Bisanti. 1997. Does moderate alcohol intake reduce fecundability? A European multicenter study on infertility and subfecundity. *Alcoholism: Clinical and Experimental Research* 21 (2): 206-12.

Public Health Agency of Canada. 2007. What we're doing: Fetal Alcohol Spectrum Disorder (FASD). http://www.phac-aspc.gc.ca/fasd-etcaf/what-eng.php.

RCAP. *See* Royal Commission on Aboriginal Peoples.

Robinson, G.C., J.L. Conry, and R.F. Conry. 1987. Clinical profile and prevalence of fetal alcohol syndrome in an isolated community in British Columbia. *Canadian Medical Association Journal* 137 (3): 203-7.

Royal Commission on Aboriginal Peoples. 1996. *Report of the Royal Commission on Aboriginal Peoples.* Vol. 1. Ottawa: Minister of Supply and Services Canada.

Sayers, J.F., and K.A. MacDonald. 2001. A strong and meaningful role for First Nations women in governance. In *First Nations women, governance and the Indian Act: A collection of policy research papers,* eds. J.F. Sayers, K.A. MacDonald, J.A. Fiske, M. Newell, E. George, and W. Cornet , 1-54. Ottawa: Status of Women Canada.

Shanner, L. 1998. Procreation. In *A companion to feminist philosophy,* ed. A.M. Jaggar, 429-37. Cambridge, UK: Blackwell.

Square, D. 1997. Fetal alcohol syndrome epidemic on Manitoba reserve. *Canadian Medical Association Journal* 157 (1): 59-60.

Stade, B., W.J. Ungar, B. Stevens, J. Beyene, and G. Koren. 2006. The burden of prenatal exposure to alcohol: Measurement of cost. *Journal of FAS International* 4 (e5-February 6, 2006): 1-14.

Stout, M.D. 2005. Healthy living and Aboriginal women: The tension between hard evidence and soft logic. *Centres of Excellence for Women's Health Research Bulletin* 4 (2): 16-21.

Streissguth, A.P., H.M. Barr, J. Kogan, and F.L. Bookstein. 1996. Understanding the occurrence of secondary disabilities in clients with fetal alcohol syndrome (FAS) and fetal alcohol effects (FAE). Report prepared for the Center for Disease Control and Prevention.

Streissguth, A.P., F.L. Bookstein, H.M. Barr, P.D. Sampson, K. O'Malley, and J.K. Young. 2004. Risk factors for adverse life outcomes in fetal alcohol syndrome and fetal alcohol effects. *Journal of Developmental and Behavioral Pediatrics* 25 (4): 228-38.

Tait, C. 2003. F*etal alcohol syndrome among Canadian Aboriginal peoples: Review and analysis of the intergenerational links to residential schools.* Ottawa: Aboriginal Healing Foundation.

Thanh, N.X., and E. Jonsson. 2009. Costs of fetal alcohol spectrum disorder in Alberta, Canada. *The Canadian Journal of Clinical Pharmacology* 16 (1): 80-90.

Tuhiwai Smith, L. 1999. *Decolonizing methodologies: Research and indigenous peoples.* London and New York: Zed Books.

Williams, R.J, F.S. Odaibo, and J.M. McGee. 1999. Incidence of fetal alcohol syndrome in northeastern Manitoba. *Canadian Journal of Public Health* 90 (3): 192-4.