



Synthesis on fetal alcohol spectrum disorder

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How Important Is It?

Fetal Alcohol Spectrum Disorder (FASD) is a permanent birth defect caused by maternal consumption of alcohol during pregnancy. The term FASD is used to describe a range of disabilities and diagnoses such as *Fetal Alcohol Syndrome (FAS)* or *alcohol-related neurodevelopmental disorder (ARND)* and is applied to children whose mothers are known to have drunk heavily during pregnancy and who exhibit some, but not all, features of alcohol-related facial malformation. FASD is the leading cause of mental retardation in the Western world. Related birth defects, cognitive and developmental disabilities can be prevented by avoiding alcohol during pregnancy. In Canada, it is estimated that nine in every 1,000 children born suffer from FASD¹, that is more than 3,000 babies a year and an estimated 300 000 people currently living with it.

NLSCY² data on the prevalence of self-reported alcohol consumption may be summarized as follows:

- 17 to 25% of mothers drank at one time or another during their pregnancy;
- 7 to 9% drank through their entire pregnancy;
- 5% drank only before realizing they were pregnant.

In addition, a majority of women (94%) consumed alcohol once or twice a day, whereas 3% consumed three to four drinks a day, and fewer than 3% consumed five or more drinks a day.

What Do We Know?

Prenatal exposure to alcohol, heavy, regular or even episodic (binge) drinking, has been associated with a variety of outcomes:

- [facial malformation](#), including absent or indistinct groove in the upper lip, thinned upper lip, and shortened eye openings;
- damage to the nervous system, manifested as developmental delays and mental retardation and cognitive and/or behavioural problems;
- growth retardation (less than the 10th percentile for weight, height or head circumference at some time during pre- or postnatal development).

FASD is associated with the following cognitive and psychosocial outcomes:

- a distinctive pattern of intellectual deficits, particularly in arithmetic and certain aspects of attention, including planning, cognitive flexibility and the utilization of feedback to modify a previously learned response;
- deficient performance of alcohol-exposed children on tests of visual motor integration and [visual memory](#);
- with respect to learning, the acquisition of new information is more likely to be impaired than retention and retrieval of previously learned information;

- as alcohol-exposed children grow older, deficits in socio-emotional function become increasingly salient, particularly with regard to social judgment, interpersonal skills, a lack of consideration for the rights and feelings of others, and antisocial behaviour.

[Accurate diagnosis](#) of the full spectrum of disabilities caused by alcohol is essential for both primary prevention (preventing the birth of children damaged by alcohol) and secondary prevention (reducing secondary disabilities in children already damaged by prenatal alcohol exposure). The 4-Digit Code approach (a graded diagnostic, for all ages, coding the four main features: (1) growth deficiency, (2) facial malformation, (3) brain damage or dysfunction, and (4) prenatal alcohol exposure) is used to address issues of the reliability of diagnosis through the development of quantifiable scales. Still, the most challenging problem in the field of FASD is identifying children who do not display facial malformations.

What Can Be Done?

[Screening in communities](#) is an important first step to diagnosis, appropriate, timely intervention and prevention. [Early identification](#) of alcohol-abusing women is the key to successful intervention. This can be conceptualized in four stages: (1) pre-conception, (2) prenatal, (3) birth/infancy, and (4) toddlers/young children.

Once an FASD child is born, early identification and intervention become critical and should incorporate the following services:

- family-focused interventions that provide support to both the parent and child;
- school-based interventions; and
- residential programs that include individual psychotherapy, parenting education, child care and vocational training.

Several problems have been identified regarding the provision of services for FASD children:

- identification of [guidelines](#) for standards of care;
- services/programs [specific to FASD](#) children and their families;
- effectiveness of existing programs;
- identification of post-natal [environmental variables](#) or stressors such as instability of caregiving environment that interfere with child development.

Several policy and services implications can be gleaned from the accumulated body of FASD research:

- the need to develop [screening programs](#) that are low-cost, require only a modest time commitment and facilitate early identification;
- comprehensive needs assessment and comparing FASD individuals with others who have different disabilities in order to identify the similarities and differences between the two groups and learn from them;
- developing programs for young (0-5) children;
- more coordinated system of care for alcohol-abusing women, such as coordination of obstetric, psychiatric and developmental services;
- [Education of health-care providers](#).

Reviewing the current status of programs and services for individuals with FASD suggests that there is probably a high need for services to individuals and families with infants/young children with FASD. However, research is necessary to

characterize these needs, as information available to guide planning for services remains fragmentary and anecdotal. While suggestive, this type of research can do little to convince policy-makers of the need for increased funding for program development or third-party support. Such a review further suggests that evaluation of program/service effectiveness should be a component of all programs for prevention, intervention and treatment.

References

1. Health Canada, Public Health Agency of Canada. Fetal alcohol spectrum disorder. *It's Your Health*. [Internet]. September 2006. Available at: http://www.hc-sc.gc.ca/hl-vs/alt_formats/pacrb-dgapcr/pdf/iyh-vsv/diseases-maladies/fasd-etcaf-eng.pdf. Accessed July 12, 2007.
2. Statistics Canada. *National Longitudinal Study on Children and Youth, 1994-1995 data*. Ottawa, Ontario: Statistics Canada.