

30 Evidence-based FASD Facts for Health Professionals

1. The National Health and Medical Research Council (NHMRC) [Australian guidelines to reduce health risks from drinking alcohol](#) (2020) state that:
 - To prevent harm from alcohol to their unborn child, women who are pregnant or planning a pregnancy should not drink alcohol.
 - For women who are breastfeeding, not drinking alcohol is safest for their baby.
2. Alcohol is a teratogen that readily crosses the placenta and damages the central nervous system and other organs and may impair prenatal and postnatal growth (Fitzpatrick & Pestell, 2017).
3. FASD is a diagnostic term which encompasses severe impairment in 3 or more of 10 neurodevelopmental domains, confirmation of prenatal alcohol exposure, and either the presence or absence of three sentinel facial features (Bower & Elliott, 2020).
4. When a fetus has been prenatally exposed to alcohol, the blood alcohol of the fetus is the same or higher than the mother's (Bower & Elliott, 2020; Burd et al., 2012).
5. In the absence of facial dysmorphology, FASD is commonly underdiagnosed and misdiagnosed as Autism Spectrum Disorder, Attention Deficit Hyperactivity Disorder and Conduct Disorder (Chasnoff et al., 2015; Nash et al., 2013).
6. Only 41% of allied health and medical professionals are confident asking about alcohol use during pregnancy, which contributes to the under-diagnosis of FASD (Burns et al., 2013; Payne et al., 2005).
7. FASD is recognised as the leading preventable cause of birth defects and developmental and learning disabilities worldwide (Mather et al., 2015).
8. Individuals living with FASD are twice as likely to experience suicidal ideation in adolescence than individuals without FASD (O'Connor et al., 2019).
9. 50% of Australian women experience an unplanned pregnancy, leaving the chance of alcohol exposed pregnancies very high (Australian Medical Association, 2016).
10. The 'spectrum' of birth defects is in part due to the quantity of alcohol consumed, how frequently it was consumed and the timing (during the gestation of the pregnancy) it was consumed (May et al., 2011).

11. Australia has had a binge drinking culture, with teenagers commonly beginning drinking before 18 years of age. This trend is slowing but has created many opportunities for the development of FASD (Australian Institute of Health and Welfare, 2017).
12. The National Health and Medical Research Council, the Australian Medical Association, and the World Health Organisation advise to abstain from drinking alcohol during pregnancy and breastfeeding (Australian Medical Association, 2016; National Health and Medical Research Council, 2020; Schölin, 2016).
13. The 3 sentinel facial features for FASD (thin upper lip, smooth philtrum, short palpebral fissure length) are specific to alcohol exposure and do not vary by race, age or gender (Gibson et al., 2020; Moore et al., 2007).
14. Women have articulated that peer pressure & not wanting others to know they are pregnant, insufficient education, and the enjoyment of alcohol are reasons they felt giving up alcohol during pregnancy would be hard (Tsang & Elliott, 2017).
15. Life expectancy at birth for people with FAS (a condition on the FASD spectrum) is 34 years, with the leading cause of death being suicide (Thanh & Jonsson, 2016).
16. 83% of individuals living with FASD do not display characteristic facial features (Kuehn et al., 2012).
17. 1/3 of women are unaware of the dangerous effects alcohol has on a developing fetus (Peadon et al., 2010).
18. Problems that emerge in childhood do not disappear with age, but rather contribute to the development of additional and possibly more severe disorders later in life (Pei et al., 2011).
19. The risk of developing early onset (13-17 years) alcohol abuse disorder was two times higher in those exposed to 3 or more standard drinks in early pregnancy (Alati et al., 2006; Dodge et al., 2019).
20. Facial dysmorphology only occurs when alcohol is consumed during the first trimester (Feldman et al., 2012).
21. 81% of individuals living with FASD will have a language disorder (Popova et al., 2016).
22. Children living with FASD are three times more likely to experience gross motor impairment than those without FASD. The most common gross motor deficits

children experience are balance, coordination and ball skills (Lucas et al., 2014).

23. FASD occurs in all cross-sections of society. Wherever there is alcohol there is FASD (Fitzpatrick & Pestell, 2017).
24. The stigma that FASD is a low socioeconomic status disorder is false; high socio-economic status is a strong predictor for alcohol use during pregnancy (McCormack et al., 2017).
25. There is no minimum threshold for prenatal alcohol exposure required for diagnosis of FASD (Bower & Elliott, 2020).
26. 1 in 4 pregnant women continue drinking during pregnancy. Of these, 96% report drinking 1 or 2 standard drinks (defined as 10g of ethanol) in a typical drinking session (Australian Institute of Health and Welfare, 2017).
27. 61% of pregnant women consumed alcohol between conception and pregnancy recognition, often in irregular, heavy patterns (McCormack et al., 2017).
28. Population prevalence studies in the USA and Canada conservatively estimate that FASD affects 2-5% of the population (May et al., 2018; Popova et al., 2019).
29. Without intervention, individuals living with FASD risk developing secondary conditions such as school failure, addictions, mental health disorders, dependent living, unemployment, homelessness & incarceration (Popova et al., 2016).
30. 1/3 of women binge drank during their pregnancy on a 'special occasion', so education about abstaining is important for all prospective parents (Muggli et al., 2016).

For more information on FASD:

<https://www.nofasd.org.au/>

References

- Alati, R., Al Mamun, A., Willams, G., O'Callaghan, M., Najman, J., & Bor, W. (2006). In Utero Alcohol Exposure and Prediction of Alcohol Disorders in Early Adulthood: A Birth Cohort Study. *JAMA Psychiatry*, 63(9), 1009–1016.

Australian Institute of Health and Welfare. (2017). *National Drug Strategy Household Survey 2016: Detailed findings* (Drug Statistics Series No. 31). Australian Institute of Health and Welfare.

Australian Medical Association. (2016, August 24). *Fetal Alcohol Spectrum Disorder (FASD)—2016 Position Statement*. Australian Medical Association.
<https://ama.com.au/position-statement/fetal-alcohol-spectrum-disorder-fasd-2016>

Bower, C., & Elliott, E. J. (2020). *Australian Guide to the diagnosis of Fetal Alcohol Spectrum Disorder (FASD)*. Australian Government Department of Health.

Burd, L., Blair, J., & Dropps, K. (2012). Prenatal alcohol exposure, blood alcohol concentrations and alcohol elimination rates for the mother, fetus and newborn. *Journal of Perinatology: Official Journal of the California Perinatal Association*, 32(9), 652–659. <https://doi.org/10.1038/jp.2012.57>

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. <https://doi.org/10.1111/dar.12047>

Chasnoff, I. J., Wells, A. M., & King, L. (2015). Misdiagnosis and Missed Diagnoses in Foster and Adopted Children With Prenatal Alcohol Exposure. *Pediatrics*, 135(2), 264–270. <https://doi.org/10.1542/peds.2014-2171>

Dodge, N., Jacobson, J. L., & Jacobson, S. W. (2019). Effects of Fetal Substance Exposure on Offspring Substance Use. *Pediatric Clinics of North America*, 66(6), 1149–1161.

Feldman, H. S., Jones, K. L., Lindsay, S., Slymen, D., Klonoff-Cohen, H., Kao, K., Rao, S., & Chambers, C. (2012). Prenatal alcohol exposure patterns and alcohol-related birth defects and growth deficiencies: A prospective study. *Alcoholism, Clinical and Experimental Research*, 36(4), 670–676.

<https://doi.org/10.1111/j.1530-0277.2011.01664.x>

Fitzpatrick, J. P., & Pestell, C. F. (2017). Neuropsychological Aspects of Prevention and Intervention for Fetal Alcohol Spectrum Disorders in Australia. *Journal of Pediatric Neuropsychology*, 3(1), 38–52. <https://doi.org/10.1007/s40817-016-0018-8>

Gibson, S., Nagle, C., Paul, J., McCarthy, L., & Muggli, E. (2020). Influences on drinking choices among Indigenous and non-Indigenous pregnant women in Australia: A qualitative study. *PLOS ONE*, 15(4), e0224719. <https://doi.org/10.1371/journal.pone.0224719>

Kuehn, D., Aros, S., Cassorla, F., Avaria, M., Unanue, N., Henriquez, C., Kleinsteuber, K., Conca, B., Avila, A., Carter, T. C., Conley, M. R., Troendle, J., & Mills, J. L. (2012). A Prospective Cohort Study of the Prevalence of Growth, Facial, and Central Nervous System Abnormalities in Children with Heavy Prenatal Alcohol Exposure. *Alcoholism: Clinical and Experimental Research*, 36(10), 1811–1819. <https://doi.org/10.1111/j.1530-0277.2012.01794.x>

Lucas, B. R., Latimer, J., Pinto, R. Z., Ferreira, M. L., Doney, R., Lau, M., Jones, T., Dries, D., & Elliott, E. J. (2014). Gross Motor Deficits in Children Prenatally Exposed to Alcohol: A Meta-analysis. *Pediatrics*, 134(1), e192–e209. <https://doi.org/10.1542/peds.2013-3733>

Mather, M., Wiles, K., & O'Brien, P. (2015). Should women abstain from alcohol throughout pregnancy? *BMJ (Clinical Research Ed.)*, 351, h5232. <https://doi.org/10.1136/bmj.h5232>

May, P. A., Chambers, C. D., Kalberg, W. O., Zellner, J., Feldman, H., Buckley, D., Kopald, D., Hasken, J. M., Xu, R., Honerkamp-Smith, G., Taras, H., Manning, M. A., Robinson, L. K., Adam, M. P., Abdul-Rahman, O., Vaux, K., Jewett, T., Elliott, A. J., Kable, J. A., ... Hoyme, H. E. (2018). Prevalence of Fetal Alcohol

Spectrum Disorders in 4 US Communities. *JAMA*, 319(5), 474–482.

<https://doi.org/10.1001/jama.2017.21896>

McCormack, C., Hutchinson, D., Burns, L., Wilson, J., Elliott, E., Allsop, S., Najman, J., Jacobs, S., Rossen, L., Olsson, C., & Mattick, R. (2017). Prenatal Alcohol Consumption Between Conception and Recognition of Pregnancy. *Alcoholism: Clinical and Experimental Research*, 41(2), 369–378.

<https://doi.org/10.1111/acer.13305>

Moore, E. S., Ward, R. E., Wetherill, L. F., Rogers, J. L., Autti-Rämö, I., Fagerlund, Å., Jacobson, S. W., Robinson, L. K., Hoyme, H. E., Mattson, S. N., & Foroud, T. (2007). Unique Facial Features Distinguish Fetal Alcohol Syndrome Patients and Controls in Diverse Ethnic Populations. *Alcoholism: Clinical and Experimental Research*, 31(10), 1707–1713. <https://doi.org/10.1111/j.1530-0277.2007.00472.x>

Muggli, E., O’Leary, C., Donath, S., Orsini, F., Forster, D., Anderson, P. J., Lewis, S., Nagle, C., Craig, J. M., Elliott, E., & Halliday, J. (2016). “Did you ever drink more?” A detailed description of pregnant women’s drinking patterns. *BMC Public Health*, 16(1). <https://doi.org/10.1186/s12889-016-3354-9>

Nash, K., Stevens, S., Rovet, J., Fantus, E., Nulman, I., Sorbara, D., & Koren, G. (2013). TOWARDS IDENTIFYING A CHARACTERISTIC NEUROPSYCHOLOGICAL PROFILE FOR FETAL ALCOHOL SPECTRUM DISORDERS 1. ANALYSIS OF THE MOTHERISK FASD CLINIC. *Journal of Population Therapeutics and Clinical Pharmacology*, 20(1), Article 1.

<https://www.jptcp.com/index.php/jptcp/article/view/403>

National Health and Medical Research Council. (2020). *Australian guidelines to reduce health risks from drinking alcohol*. National Health and Medical Research Council. <https://nhmrc.gov.au/about-us/publications/australian-guidelinesreduce-health-risks-drinking-alcohol>

- O'Connor, M. J., Portnoff, L. C., Lebsack-Coleman, M., & Dipple, K. M. (2019). Suicide risk in adolescents with fetal alcohol spectrum disorders. *Birth Defects Research, 111*(12), 822–828. <https://doi.org/10.1002/bdr2.1465>
- Payne, J., Elliott, E., D'Antoine, H., O'Leary, C., Mahony, A., Haan, E., & Bower, C. (2005). Health professionals' knowledge, practice and opinions about fetal alcohol syndrome and alcohol consumption in pregnancy. *Australian and New Zealand Journal of Public Health, 29*(6), 558–564. <https://doi.org/10.1111/j.1467-842X.2005.tb00251.x>
- Peadon, E., Payne, J., Henley, N., D'Antoine, H., Bartu, A., O'Leary, C., Bower, C., & Elliott, E. J. (2010). Women's knowledge and attitudes regarding alcohol consumption in pregnancy: A national survey. *BMC Public Health, 10*(1), 510. <https://doi.org/10.1186/1471-2458-10-510>
- Pei, J., Denys, K., Hughes, J., & Rasmussen, C. (2011). Mental health issues in fetal alcohol spectrum disorder. *Journal of Mental Health, 20*(5), 473–483. <https://doi.org/10.3109/09638237.2011.577113>
- Popova, S., Lange, S., Poznyak, V., Chudley, A. E., Shield, K. D., Reynolds, J. N., Murray, M., & Rehm, J. (2019). Population-based prevalence of fetal alcohol spectrum disorder in Canada. *BMC Public Health, 19*(1), 845. <https://doi.org/10.1186/s12889-019-7213-3>
- Popova, S., Lange, S., Shield, K., Mihic, A., Chudley, A. E., Mukherjee, R. A. S., Bekmuradov, D., & Rehm, J. (2016). Comorbidity of fetal alcohol spectrum disorder: A systematic review and meta-analysis. *The Lancet, 387*(10022), 978–987. [https://doi.org/10.1016/S0140-6736\(15\)01345-8](https://doi.org/10.1016/S0140-6736(15)01345-8)
- Schölin, L. (2016). *Prevention of harm caused by alcohol exposure in pregnancy: Rapid review and case studies from member states*. World Health Organization, Regional Office for Europe.

Thanh, N. X., & Jonsson, E. (2016). Life Expectancy of People with Fetal Alcohol Syndrome. *Journal of Population Therapeutics and Clinical Pharmacology*, 23(1), 53–59.

Tsang, T. W., & Elliott, E. J. (2017). High global prevalence of alcohol use during pregnancy and fetal alcohol syndrome indicates need for urgent action. *The Lancet Global Health*, 5(3), e232–e233. [https://doi.org/10.1016/S2214-109X\(17\)30008-6](https://doi.org/10.1016/S2214-109X(17)30008-6)