Impact of location, gender and facial features on presentation of Fetal Alcohol Spectrum Disorder (FASD): a decade of data from the Australian Paediatric Surveillance Unit (APSU)

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Introduction: National data on FASD is essential to inform service development, practice and prevention, but is lacking. We aimed to describe the epidemiology and clinical features of FASD in Australia.

Methods: National, prospective, active surveillance with monthly reporting by paediatricians of incident FASD cases aged <15 years using the APSU, 2015-2024 inclusive.

Results: From 1870 notifications, 1399 cases were confirmed (median age at diagnosis 8.7 years, 65% male, 53% Aboriginal and/or Torres Strait Islander, 15% remote/very remote-dwelling). Of children, 47% were in foster/adoptive care, 58% had child protection contact, 21 % had ≥1 sibling with FASD. All had severe functional impairment in ≥3 neurodevelopmental domains, including attention (83%), executive function (75%), adaptive function/social skills/social communication (75%), academic achievement (63%) or language (62%). Comorbid mental health disorders (DSM-5) included ADHD (72%), communication (60%) or stress-related disorders (51%) and autism (24%). Only 18% had 3 sentinel facial features (SFF) but 30% had major congenital anomalies and 18% microcephaly. Academic problems (aOR 0.68 [0.50-0.9l]p=0.Ol) and conduct disorders (aOR 0.63 [0.4 7-0.86]p=0.003) were less prevalent in girls than boys but specific learning disorders (aOR 1.49 [1.01-2.23]p=0.05) and microcephaly (aOR 1.81 [1.35-2.43]p=<0.001) were more prevalent in girls. Children with 3 SSF had higher odds of neurological problems (aOR 2.42 [1.64-3.58]p=<0.001), motor disorders (aOR 1.66 [1.03-2.67]p=0.04), microcephaly (aOR 3.04 [2.13-4.34]p=<0.001) or major congenital anomalies (aOR 1.90 [1.27-2.85]p=0.002).
Discussion and conclusion: These novel national data highlight the clinical complexity of FASD in Australian, the high rates of severe functional impairment and comorbidity, and variations in presentation nationally. They will inform services to enable early diagnosis, effective management and family support and to improve prevention efforts.

Implications for communities, practice, policy and/or First Nations *communities:*
The demographic and geographic distribution of FASD and sex differences in presentation will inform place-based and culturally appropriate health service development, clinician training and prevention policy.