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Editorial Open Access

Foetal Alcohol Spectrum Disorder (FASD) Diagnostic Guidelines: A Neuropsychological Diagnostic Criteria Review Proposal

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Editorial

Lack of evidence is not the same as evidence of absence of risk and, in this case, no evidence of harm does not mean evidence of no harm. Subsequently, research shows that no amount of alcohol consumption during pregnancy can be considered as safe [1].

One of the deleterious health consequences of prenatal alcohol exposure is foetal alcohol spectrum disorder (FASD), with the most severe form defined as foetal alcohol syndrome (FAS). The clinical features of FAS can be broadly divided into: (1) Morphological malformations, especially craniofacial defects, (2) Growth retardation, and (3) Central nervous system (CNS) impairment, expressed mainly as learning disabilities and behavioural problems [2,3]. However, most patients with FASD exhibit only a subset of the characteristics of FAS, mainly cognitive and behavioural deficits [4].

The neurodevelopmental deficits associated with FASD are complex and multifaceted. It is thought that the differences in dosing and timing of exposure, as well as interacting genetic and environmental influences on brain development, are responsible of the variability in presentation [5-9]. It is well studied that the most common neurodevelopmental disabilities and affected domains include attention, executive function, spatial working, memory and adaptive behaviour [10-12].

The presence of a vast amount of research accumulated over the years has led to the development of several FASD diagnostic guidelines and, consequently, to a lack of consensus on diagnostic categories and conditions. It has not been until the latest update of the Diagnostic and Statistical Manual of Mental Disorders 5th edition (DSM-5), that clinicians have been provided with a diagnostic category intended to embrace the range of neurobehavioral effects related to PAE. The new DSM-5 includes a new diagnostic category, "Neurobehavioral Disorder Associated with Prenatal Alcohol Exposure" (ND-PAE) in Section III, as a "condition in need of further study" and also as a specifier for the broader diagnostic term of an "Other Specified Neurodevelopmental Disorder" (315.8). Before this addition, the only reference available for this purpose has been the International Classification of Diseases on its 10th edition (ICD-10). This classification system includes two terms related to FASD, "foetal alcohol syndrome, dysmorphic" (Q86.0) and "newborn (suspected to be) affected by maternal use of alcohol" (P04.3) [13].

The research suggests high comorbidity between FASD and mood and anxiety disorder and negative emotionality or the intensity of negative moods. These are some of the earliest observable signs of PEA in infants [14,15].

Up to now, there is no single neuropsychological measure, nor pattern of neuropsychological profiles, that are specific to all individuals with FASD [16,17]. Despite there is a consensus about which domains are needed to evaluate in order to get FASD diagnosis and the criterion for significant impairment (at least three CNS domains with scores on standard measures 2 or more standard deviations below the mean), there is not a consensus about which tests are the better ones to assess this domains.

The last FASD Canadian Guidelines for Diagnosis, published on December 2015, try to clarify and validate standardized anthropometric measures and neurodevelopmental assessment domains. Moreover, the guide has provided suggestions about when tests might be treated with high and low confidence and special considerations in the neurodevelopmental assessment of infants and young children.

In spite of all this effort, we can conclude that more research is needed to homogenize the neurodevelopmental evaluation in order to better compare the results in clinical studies [18].

References

1. Vall O, Salat-Batlle J, Garcia-Algar O (2015) Alcohol consumption during pregnancy and adverse neurodevelopmental outcomes. J Epidemiol Community Health 69: 927-929.
2. Moore E, Ward R, Wetherill L, Rogers J, Autti-Ramo I, et al. (2007) Unique Facial Features Distinguish Fetal Alcohol Syndrome Patients and Controls in Diverse Ethnic Populations. Alcohol Clin Exp Res 31: 1707-1713.
3. Rostand A, Kaminski M, Lelong N, Dehaene P, Delestret I, et al. (1990) Alcohol use in pregnancy, craniofacial features, and fetal growth. J Epidemiol Community Health 44: 302-306.
4. Valenzuela CF, Morton RA, Diaz MR, Topper L (2012) Does moderate drinking harm the fetal brain? Insights from animal models. Trends Neurosci 35: 284-292.
5. Paintner A, Williams AD, Burd L (2012) Fetal alcohol spectrum disorders implications for child neurology, part 1: prenatal exposure and dosimetry. J Child Neurol 27: 258-63.
6. McCarthy N, Eberhart JK (2014) Gene-ethanol interactions underlying fetal alcohol spectrum disorders. Cell Mol Life Sci 71: 2699-2706.
7. Ungerer M, Knezovich J, Ramsay M (2013) In utero alcohol exposure, epigenetic changes, and their consequences. Alcohol Res 35: 37-46.
8. Zhang X, Sliwowska JH, Weinberg J (2005) Prenatal alcohol exposure and fetal programming: effects on neuroendocrine and immune function. Exp Biol Med (Maywood) 230: 376-388.
9. Archer T (2011) Effects of exogenous agents on brain development: stress, abuse and therapeutic compounds. CNS Neurosci Ther 17: 470-489.
10. Kodituwakku PW (2007) Defining the behavioral phenotype in children with fetal alcohol spectrum disorders: a review. Neurosci Biobehav Rev 31: 192-201.

11. Davis KM, Gagnier KR, Moore TE, Todorow M (2013) Cognitive aspects of fetal alcohol spectrum disorder. Wiley Interdiscip Rev Cogn Sci 4: 81-92.
12. Mattson SN, Crocker N, Nguyen TT (2011) Fetal alcohol spectrum disorders: neuropsychological and behavioral features. Neuropsychol Rev 21: 81-101.
13. Olson HC (2015) Advancing Recognition of Fetal Alcohol Spectrum Disorders: the Proposed DSM-5 Diagnosis of Neurobehavioral Disorder Associated with Prenatal Alcohol Exposure. Current Developmental Disorders Reports 2: 187-198.
14. Sadrian B, Lopez-Guzman M, Wilson DA, Saito M (2014) Distinct neurobehavioral dysfunction based on the timing of developmental binge-like alcohol exposure. Neuroscience 280: 204-219.
15. Feldman HS, Jones KL, Lindsay S, Slymen D, Klonoff-Cohen H, Kao K, et al. (2012) Prenatal alcohol exposure patterns and alcohol-related birth defects and growth deficiencies: a prospective study. Alcohol Clin Exp Res 36: 670-676.
16. Paintner A, Williams AD, Burd L (2012) Fetal alcohol spectrum disorders-implications for child neurology, part 2: diagnosis and management. J Child Neurol 27: 355-362.
17. Riley EP, Infante MA, Warren KR (2011) Fetal alcohol spectrum disorders: an overview. Neuropsychol Rev 21: 73-80.
18. Cook JL, Green CR, Lilley CM, Anderson SM, Baldwin ME, et al. (2016) Fetal alcohol spectrum disorder: a guideline for diagnosis across the lifespan. CMAJ 188: 191-197.