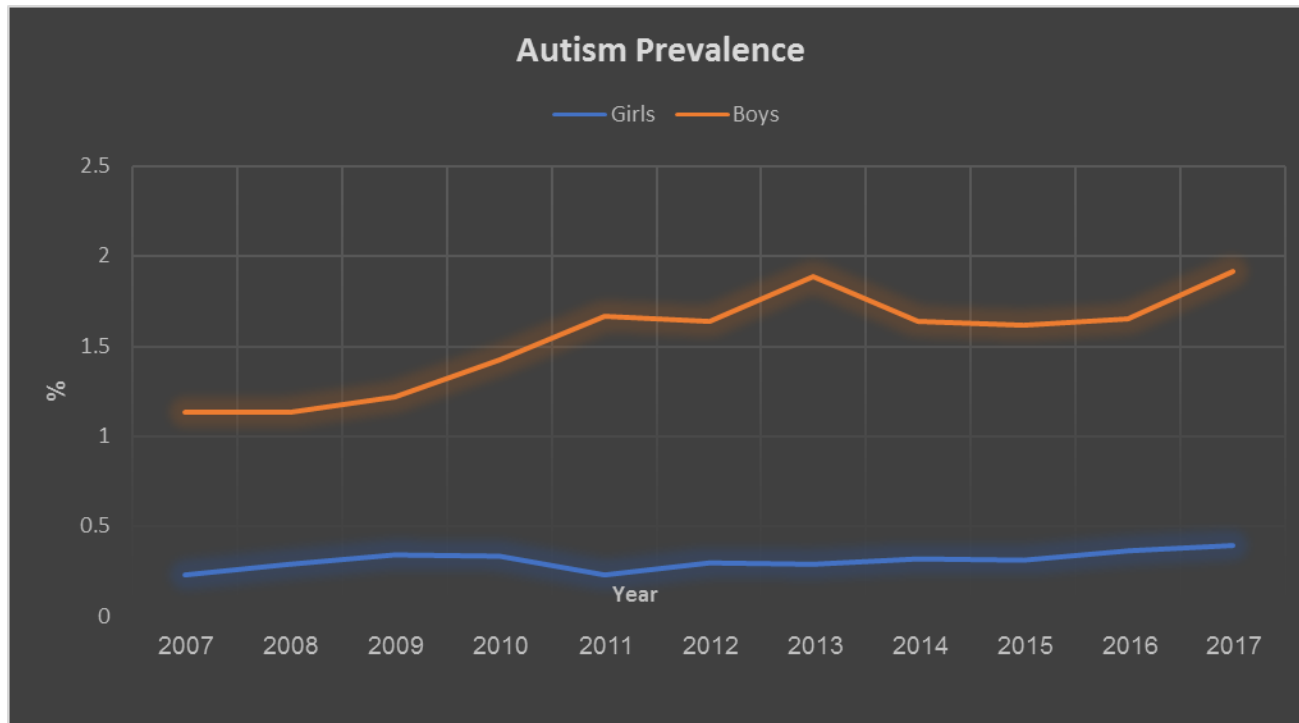


מחקר אוטיזם

ד"ר דוידוביץ מיכאל
נוירולוגיה והתפתחות הילד

Prevalence

The overall prevalence of ASD among 8-years-old children increased from 0.70% (girls 0.24%; boys 1.14%) in 2007 to 1.17% (girls 0.39%; boys 1.91%) in 2017



Etiology

[Prog Neuropsychopharmacol Biol Psychiatry](#). 2018 Aug 30;86:175-179. doi: 10.1016/j.pnpbp.2018.05.022. Epub 2018 Jun 1.

Infertility treatments during pregnancy and the risk of autism spectrum disorder in the offspring.

[Davidovitch M](#)¹, [Chodick G](#)², [Shalev V](#)², [Eisenberg VH](#)², [Dan U](#)³, [Reichenberg A](#)⁴, [Sandin S](#)⁵, [Levine SZ](#)⁶.

⊕ Author information

Abstract

We aimed to examine the effects of infertility treatments on the risk of Autism Spectrum Disorder (ASD). Data were from a representative national registry on 110,093 male live births in Israel (born: 1999-2008; and ASD: 975, 0.9%). Infertility treatments included In Vitro Fertilization (IVF), and five hormone treatments. Relative risk (RR) was estimated with multivariable logistic models. Results showed that IVF treatment compared with spontaneous conception was not statistically significantly associated with the risk of ASD. Only progesterone hormone treatment was associated with a statistically significant ($p < .05$) increased risk of ASD (RR = 1.51, 95% CI 1.22, 1.86) compared to the group with no progesterone treatment. In conclusion, progesterone exposure during the critical period of fetal life elevated the risk of ASD, possibly reflecting epigenetic modification.

Am J Epidemiol. 2018 Apr 1;187(4):656-663. doi: 10.1093/aje/kwx367.

Congenital Abnormalities of the Male Reproductive System and Risk of Autism Spectrum Disorders.

Rotem RS¹, Chodick G², Davidovitch M³, Hauser R^{1,4}, Coull BA^{1,5}, Weisskopf MG^{1,4}.

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Abstract

Androgens have an extensive influence on brain development in regions of the brain that are relevant for autism spectrum disorder (ASD), yet their etiological involvement remains unclear. Hypospadias (abnormal positioning of the urethral opening) and cryptorchidism (undescended testes) are 2 relatively common male birth defects that are strongly associated with prenatal androgen deficiencies. Having either disorder is a proxy indicator of atypical gestational androgen exposure, yet the association between these disorders and autism has not been extensively studied. We analyzed male singleton live births ($n = 224,598$) occurring from January 1, 1999, through December 31, 2013, in a large Israeli health-care organization. Boys with autism, cryptorchidism, and hypospadias were identified via International Classification of Diseases, Ninth Revision, codes, with further verification of autism case status by review of medical records. In multivariable-adjusted analyses, the odds ratio for ASD among boys with either condition was 1.62 (95% confidence interval (CI): 1.44, 1.82). The odds ratio for boys with cryptorchidism only was 1.55 (95% CI: 1.34, 1.78), and that for boys with hypospadias only was 1.65 (95% CI: 1.38, 1.98). ASD risk was not elevated among unaffected brothers of hypospadias or cryptorchidism cases, despite familial aggregation of all 3 conditions, providing some indication for the possibility of pregnancy-specific risk factors driving the observed associations. Results suggest that in-utero hypoandrogenicity could play a role in ASD etiology.

Environmental

Med Hypotheses. 2018 Aug;117:33-36. doi: 10.1016/j.mehy.2018.06.007. Epub 2018 Jun 7.

The role of cellular phone usage by parents in the increase in ASD occurrence: A hypothetical framework.

Davidovitch M¹, Shrem M², Golovaty N³, Assaf N⁴, Koren G⁵.

⊕ Author information

Abstract

Over the last few decades there has been a significant worldwide increase in the diagnosis of autism spectrum disorder (ASD), the causes of which are unknown. The biggest environmental change over this decade has been the massive introduction of cellphones. Eye contact is fundamental for infants' development, and parent-infant eye contact is impaired when parents are pre occupied by cellphones. We speculate that children with a pre-existing vulnerability to autism may be adversely affected by this pattern of parental behavior. As a first step toward exploring our hypothesis, we wished to document the extent of cellular phone usage by parents during their child's diagnostic developmental assessment. We speculated that, if under these stressful circumstances of awaiting their child's crucial assessment the parent is not fully engaged with his/her child, then in real daily activities this phenomenon is likely much more pronounced. Of 111 developmental sessions, 73 parents (66%) engaged their phone during the assessment, between 1 and 20 times. Of 62 observations in the waiting room, 52 (83.9%) parents used their phone, 1-19 times. Nine parents (17.3%) used their phone for 10-50% of the time and 16 (30.8%) for more than 50% of the time in the waiting room. In our analysis, the rate of language/motor delays was twice more common among children of cell phone users than among non users ($p = 0.04$) as an initial support of our hypothesis. Parents' focus and full attention toward their cellphones can adversely affect the development of joint attention in infants and may contribute to the development of autistic features among a vulnerable subgroup of infants. While more research is needed to prove causation, it would be reasonable to advise parents to decrease to minimum the usage of cellphones when interacting with their young children.

Exploring the Behavioral and Physiological Implications of Parental Mobile Use for Mother-child interactions



Davidovitch M , Gueron Sela N

J Dev Behav Pediatr 00:1–9, 2019

Screen Media and Autism Spectrum Disorder: A Systematic Literature Review

Slobodin O. Frankel H. Davidovitch M.

Abstract

OBJECTIVE: Previous studies suggest that psychiatric disorders are associated with problematic use of screen media. This article systematically reviews the literature on the associations between screen media and autism spectrum disorder (ASD). The review uses the Preferred Reporting Items for Systematic Reviews and Meta-Analyses guidelines.

METHOD: Electronic databases were searched from inception to April 2018, using the term “ASD/autism” along with one of the following terms: “screen time”/“media”/ “computer”/“phone”/“television”/“video game.”

RESULTS: A total of 16 studies met the inclusion criteria. The studies support the view that children and adolescents with ASD are exposed to more screen time than their typically developing peers or other clinical groups and that the exposure starts at a younger age. The content and context of screen use (e.g., with parents vs alone) may affect the behaviors associated with media exposure. Correlates and long-term consequences of early screen exposure (before the age of 3 years) remain largely unexamined.

CONCLUSION: The current review provides important information about how ASD is associated with screen use and exposure. Future longitudinal research should examine the impact of early screen exposure on child development while accounting for potential moderating environmental factors (e.g., socioeconomic status, parent-child relationship). This will help determine whether, and if so how much, exposure is detrimental and allow appropriate recommendations and interventions related to screen time among children with ASD.

Early Development

[J Autism Dev Disord](#). 2018 Aug;48(8):2854-2869. doi: 10.1007/s10803-018-3549-2.

Deviations from Typical Developmental Trajectories Detectable at 9 Months of Age in Low Risk Children Later Diagnosed with Autism Spectrum Disorder.

[Davidovitch M](#)¹, [Stein N](#)², [Koren G](#)^{3,4}, [Friedman BC](#)^{5,6}.

⊕ Author information

Abstract

This study was designed to track the developmental trajectory, during the first 24 months of life, of 335 low-risk infants later diagnosed with Autism Spectrum Disorder and identify early deviations observed in routine Well Care checkups. We compared their achievements to typically developing children and to children later diagnosed with non-autistic developmental impairments. The results show that in the first 6 months, the children with autism showed normal acquisition of milestones, whereas by 9 months of age they began to fail the language/communication, as well as motor items when compared to typical and delayed non-autistic children. Regular check-up visits may be useful in detecting early failure in achieving milestones, leading to earlier referral for further evaluation and treatment.

Diagnosis

[J Dev Behav Pediatr](#). 2015 May;36(4):227-34. doi: 10.1097/DBP.000000000000133.

Late diagnosis of autism spectrum disorder after initial negative assessment by a multidisciplinary team.

[Davidovitch M¹](#), [Levit-Binnun N](#), [Golan D](#), [Manning-Courtney P](#).

+ Author information

Abstract

OBJECTIVE: Describe a cohort of children who received a diagnosis of autism spectrum disorder (ASD) after age 6 and after having undergone a comprehensive multidisciplinary assessment before the age of 6, through which they were not diagnosed with ASD.

METHODS: Extensive chart review of patients' electronic medical records comprised a representative population-based registry of patients seen during 2004 to 2011. The study focused only on the cohort of children who were diagnosed with ASD after the age of 6 but were not diagnosed with ASD at an earlier age. The charts were reviewed for the number of developmental assessments completed and the clinician's diagnostic impressions. The charts were also examined for documentation of ASD-suggestive features pulled directly from the text of the evaluators' reports.

RESULTS: A total of 221 patients (189 males) were diagnosed with ASD after age 6 although their initial comprehensive developmental evaluations before the age of 6 were negative for ASD. The study cohort underwent a total of 1028 developmental evaluations before the age of 6, with initial diagnostic impressions that included language deficits (70%), motor difficulties (67%), attention problems (46%), and cognitive difficulties (42%). Less than half of the cohort had ASD-suggesting features documented in their initial assessment.

CONCLUSIONS: Subsequent late diagnosis of ASD after an initial ASD-negative comprehensive assessment is a common clinical experience. Reasons for this scenario may include evolving diagnosis as well as missed and overdiagnosed cases of ASD.