

# Association Between Exposure to Pesticides and ADHD or Autism Spectrum Disorder: A Systematic Review of the Literature

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**Abstract:** Objective: To conduct a systematic review of studies assessing the relationship between exposure to pesticides and ADHD or Autism Spectrum Disorder (ASD).

**Methods:** Based on a pre-registered protocol in PROSPERO (CRD42018107847), we searched PubMed, Ovid databases, and ISI Web of Knowledge with no date/language/document type restrictions, up to May 2019. The Newcastle Ottawa Scale was used to assess study quality.

**Results:** Among the 29 retained studies, 13 focused on ADHD, 14 on ASD, and two on both disorders. Ten studies reported a significant association between exposure to pesticides and ADHD/ADHD symptoms and 12 studies found a significant association with ASD/ASD traits. The strengths of the association and the possible confounders controlled for varied substantially across studies.

**Conclusion:** Whilst there is some evidence suggesting a possible link between pesticides and ADHD/ASD, heterogeneity across studies prevents firm conclusions. We provide methodological indications for future studies.

*Keywords: ADHD; pesticides; systematic review*