Autism, place of conception and proximity to toxins in 3 metropolitan areas of California

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Background/Aim: Our project aimed to understand geographic distribution of the place of conception for children with an Autism Spectrum Disorder (ASD) diagnosis in the US with respect to broad environmental factors (*n*=5401). Here, focusing on California, place of conception was compared to proximity to toxic clean-up sites, federally monitored Toxic Release Inventory (TRI) industrial sites, airports, and military bases.

Methods: Participants were 18 and over, and the biological parent of a child with a formal diagnosis of autism born in the year 2000 or later. To increase outreach, parents, schools, and organizations focused on autism were reached through social media. Our questionnaire was available in Spanish and English. We inquired about pesticide use, occupation, parental illness and medication use. Regarding autism, clinical signs and symptoms and severity index information was gathered. The postal code of place of conception was also part of the information gathered. Arcgis software was used for mapping and proximity analysis.

Results: Focusing on 3 metropolitan areas in California, the San Francisco Bay Area, Los Angeles and San Diego, about half of parents in all three places conceived their child within a mile of a toxic site, with many conceiving their child 1 mile from several Toxic Release Inventory industrial sites.

Conclusions: Nationally, approximately 17% of the population lives within 3 miles of a clean-up site, with 4% living within 1 mile. Approximately 18% of the population lives 1 mile from a TRI site, with most living farther away. At the time of conception, participating parents lived in closer proximity to toxic sites than the national average. Type of toxins and proximity are being examined for the national sample. This project allows us a way to look at parental health factors, child health factors, and chemical exposures at a more granular level.