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## Knowledge and Perceptions on Environmental Triggers and Related Educational Needs among Parents of Children with Autism Spectrum Disorders

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### Background:

Autism Spectrum Disorder (ASD) is a devastating neurodevelopmental disorder with unknown etiology so far. Recent studies reported that the interaction between genetic and environmental factors potentially trigger this disorder. Though findings on environmental factors that are possibly linked to ASD onset have advanced our understanding of ASD etiologies, parents' perceptions of environmental triggers of autism are still largely unknown and the investigations are urgently needed.

### Methods:

Face-to-face interviews were conducted on 25 parents of children with ASD from eastern North Carolina with ethnically diverse background and an average age of 39.08 ( $SD=8.2$ ) about their knowledge and perception, educational needs and decisions regarding environmental triggers of ASD.

### Results:

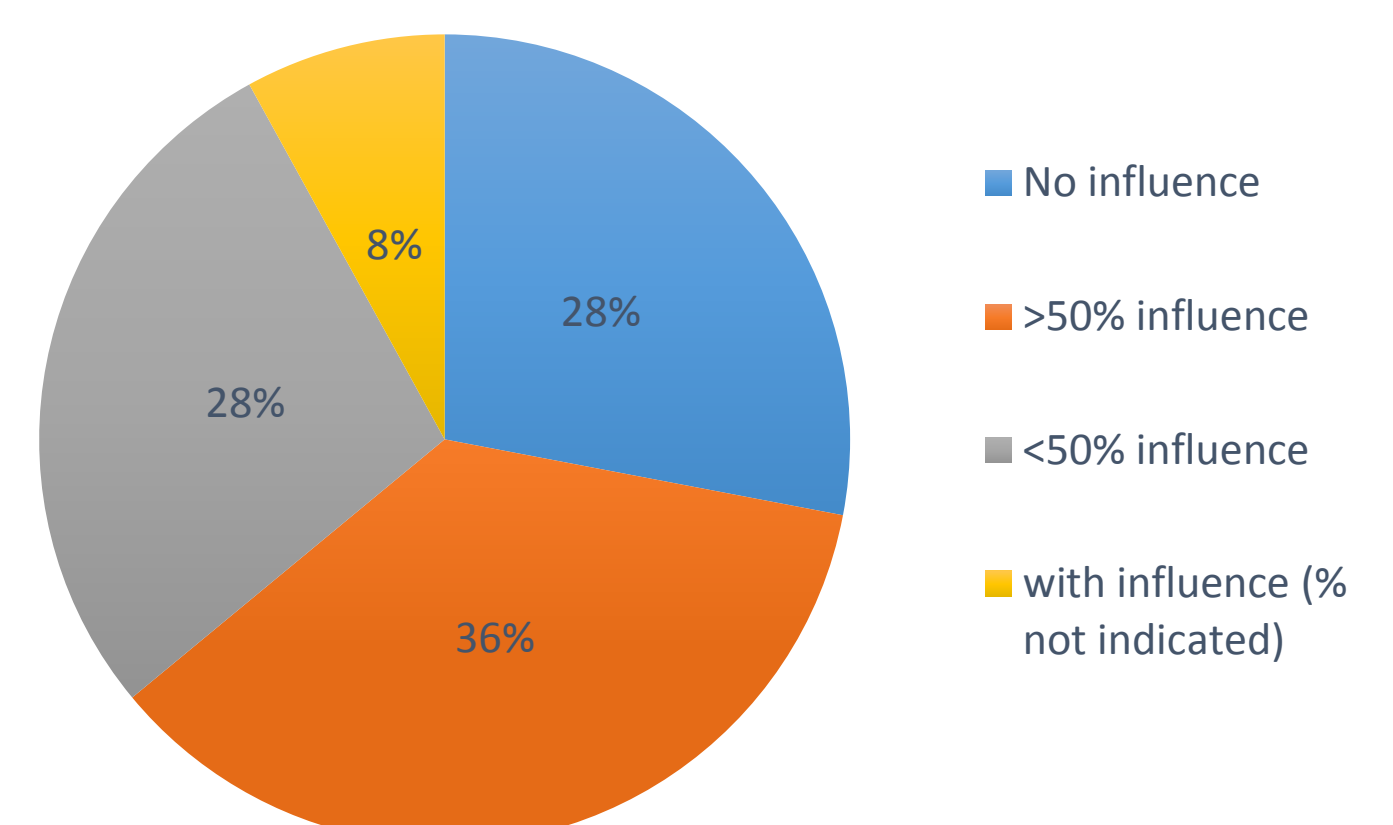
- 72% of parents thought environmental factors impacted their children's autism, half of whom indicated more than 50% influence (Figure 1).
- Among perceived environmental triggers, food (44%), environmental pollution (36%), chemicals/toxins (28%), vaccinations (24%), living locations (24%) and pesticides (16%) were frequently mentioned.
- 56% of the children with autism were born through an induced labor.
- If provided an educational program on environmental triggers of autism and related interventions, parents would like to know more about relevant research, treatment, and the influence of food, chemicals and air pollution on the onset of autism.
- Effective ways of increasing the awareness on the environmental effects on autism were identified, including class delivery, websites, conventions, brochures, more research, community outreach, workshop, and support group.
- 16% of parents expressed that they wanted to have their voices heard by doctors, and also expected health care providers to improve their own autism awareness.

Table I. Demographic Information on Participants (N=25)

Demographic Variable	Mother		Father	
	n	%	n	%
<b>Age (years)</b>				
25-34	6	24	3	12
35-44	7	28	3	12
45-54	4	16	2	8
<b>Race</b>				
Caucasian	11	44	8	32
African American	5	20	0	0
Asian	1	4	0	0
<b>Education</b>				
< 8th grade education	1	4	1	4
Some high school	1	4	0	0
Completed high school	3	12	0	0
Some college	3	12	3	12
Completed college	4	16	2	8
Graduate school	3	12	2	8

Note: Two mothers interviewed did not report their level of education.

Figure 1. Perception of Parents of Children with ASD on the Influence of the Environment on ASD



### Conclusion:

Although 28% of parents did not think there is a link between environmental factors and their children's autism, all parents expressed their needs for more information on the effects of environment on autism. Thus, they must be provided an educational program on environmental triggers of autism and related interventions to improve the conditions of children with ASD. This may be done through effective means as identified by the parents themselves, which includes conducting well-designed conventions and workshops, and making informative educational materials readily accessible. More efforts must be made to have the voices of these parents heard by various stakeholders, including health care providers.