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Behavioral therapy effective against pica in children with autism spectrum disorder

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Intensive behavioral intervention can be effective at eliminating pica, which is the repeated ingestion of inedible substances, researchers from Marcus Autism Center report.

The findings are published in the *Journal of Autism and Developmental Disorders*.

A subset of children with developmental and intellectual disabilities display pica, which can lead to life-threatening medical complications. Interrupting pica may require constant vigilance from caregivers. The objects consumed can include household items such as toys or coins, or natural materials such as woodchips or dirt.

"The existing literature on pica treatment is mostly case studies of a few kids at a time," says lead author Nathan Call, PhD, director of Severe Behavior Programs at Marcus Autism Center, Children's Healthcare of Atlanta and assistant professor of pediatrics at Emory University School of Medicine. "It shows what's possible, but there may have been instances of publication bias. So we decided to look at every kid that came through the door for the last 12 years."

The study looked at the records for 11 children (average age 10.8), all but one with autism spectrum disorder, treated in an outpatient program. All were referred specifically for pica, except one who was treated for pica after treatment for aggression. The behavioral interventions were not the same for every individual, but included components such as:

- blocking the child from eating an inappropriate object, by shadowing the child or, in a few cases, through physical restraint; this mode fades over time
- redirecting the child toward a preferred activity
- rewarding the child for disposing of an inedible object with a small treat

"It's an iterative process," Call says. "It can take weeks to figure out the right combination."

The treatment's effectiveness was tested by bringing the children to rooms baited with items that would be tempting for them to consume. The average reduction in pica from baseline to final treatment, in this clinical setting, was 96 percent. One hundred percent reduction was reached in three cases. The number of sessions required to achieve these results sometimes took weeks. Less than 90 percent reduction was achieved in only one case.

The research team's standard practice was to train parents or caregivers in how to maintain the treatment and follow up at home. Six months of follow-up services were provided whenever possible. The researchers did not have follow-up data for some of the study participants who came from outside the United States.

Call describes treating one individual, who had been hospitalized on several occasions for eating objects such as a chlorine tablet from a swimming pool, buttons off his shirt or bandages on his body.

"As you can imagine, his parents had to be super-vigilant," he says. "We thought stickers were similar enough to bandages, and the final test was that we sent him home on the bus with stickers all over his clothes, and he still had them when he got home."

Pica behavior in other populations has been linked to nutritional deficiencies, such as low iron levels. Call says his team found that for the children in the study, pica was an "automatically maintained" behavior, not attention seeking or manipulative, and did not stop after proper nutrition supplementation was provided.

"One way very young children explore their world is by putting things in their mouths," he says. "Many of these individuals were functioning on about the cognitive level of a young child, so it's not too surprising that they exhibit similar behaviors."

More information: *Journal of Autism and Developmental Disorders*, link.springer.com/article/10.1007%2Fs10803-015-2375-z

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