'Cough Trick' Takes Sting Out of Getting Shots

VITALS

Major Finding: The mean pain rating for non-Hispanic white and Hispanic white patients was 48.8 mm on the VAS, compared with 29.2 mm in the "cough-trick" group, indicating a 40% reduction in pain.

Data Source: A randomized controlled within-subject study of 68 prekindergarten and pre–junior high school children receiving scheduled immunizations.

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Some children undergoing routine immunizations experienced less pain from the injection when they were asked to cough during the procedure.

However, Dustin P. Wallace, Ph.D., of the psychiatry department of the Mayo Clinic in Rochester, Minn., and his colleagues reported that the "cough trick," which consists of a warm-up cough of moderate intensity, followed by second cough coinciding with the needle puncture of the actual immunization, was not universally effective among the study population, compared with usual treatment. They found that the strategy demonstrated statistically and clinically significant efficacy in post hoc analysis in children who identified themselves as Hispanic white or non-Hispanic white, but did not seem to be effective in children who identified themselves as non-Hispanic black (Pediatrics 2010;125: e367-73).

For the study, 68 children who were scheduled to receive either their prekindergarten (22) or pre–junior high (46) immunizations and their families were recruited from an outpatient pediatric clinic in a large public hospital. As per the within-study design, the children were assigned randomly to the cough trick for either their first or second immunization and usual treatment for the other one, the authors wrote. Immediately after each injection, the child, parent, and nurse independently rated the child's pain reaction on separate visual analog scales (VAS).

The average self-reported pain intensity was 42.6 mm on the VAS for injections in the control condition, compared with 37.1 mm for those given with the cough trick, which does not represent a statistically significant reduction in pain intensity, they wrote. However, post hoc analyses identified an interaction between treatment efficacy and self-reported race/ethnicity.

"The mean pain rating in the control condition [for non-Hispanic white and Hispanic white patients] was 48.8 mm, compared with 29.2 mm in the experimental condition, which indicated the cough trick was associated with a 40% reduction in pain," the authors wrote. In contrast, a separate within-subject t-test to evaluate non-Hispanic black patients showed a nonsignificant increase in pain associated with the cough trick," they noted.

It is possible that the pain assessment among the non-Hispanic black children was confounded by the fact that the participating nurses and the study research assistant were primarily non-Hispanic or Hispanic white, whereas almost half of the participants were black, the authors hypothesized. "These differences might have played a role in some participants' willingness to disclose pain or in their belief that this procedure could be of benefit," they wrote, noting that future research should investigate the reliability and causes of the racial differences observed in this study.

Although the efficacy of the cough-trick strategy appeared to be moderated by race, it was not moderated by gender or age group, "which supports the potential utility of this strategy in a busy pediatric clinic setting," the authors wrote.

Among the study's limitations are its small sample size and the use of the VAS for pain self-reporting, because the measure has not been validated for use with children younger than age 5 years. ■