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Sarah E. Astrab

Virginia Commonwealth University, astrabse@vcu.edu

Robin Everhart

Virginia Commonwealth University, reverhart@vcu.edu

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Asthma-Related Anxiety and Quick-Relief Medication Use in Urban Children with Asthma

Sarah Astrab, Dr. Robin Everhart, Department of Psychology

Introduction

- ❖ Asthma is an illness that impacts the lungs and is the most common chronic illness among children.
- ❖ Although not curable, asthma is manageable through proper treatments, including daily controller use and rescue inhalers.
- ❖ Anxiety has been found to increase asthma symptoms in children (Bruzese, Unikel, Shrout, & Klein, 2011).
- ❖ Caregivers who are anxious about their child's asthma symptoms may perceive their child's symptoms as more severe and/or doubt their ability to manage their child's asthma (Bruzese et al., 2011). This can result in the misuse of asthma medication.

Goal of Study

- ❖ This study focused on the association between asthma-related anxiety and the use of quick-relief asthma medications in a low-income, urban sample of children with asthma in Richmond, Virginia.

Participants

- ❖ Participants included an urban sample of 53 families who reside in Richmond, Virginia.
- ❖ Children participating in the study were diagnosed with asthma by a physician or experienced breathing problems in the past 12 months.
- ❖ The age of child participants ranged from 7 to 12 years [$M=9.5$, (SD) =1.5]; 75% were male.
- ❖ 89% of child participants were African American/Black and 8% identified as Caucasian/White. The remaining participants identified as mixed or multiracial (3%).
- ❖ 85% of primary caregivers were biological mothers, while 5% were biological fathers. The remaining 10% of caregivers were grandparents or adoptive parents.
- ❖ 66% of primary caregivers reported to have never been married, 15% were currently married, 17% reported being divorced, and 2% reported being widowed.

Procedure

- ❖ Participants were recruited from the Virginia Commonwealth University Health System.
- ❖ During the initial visit, data were collected in the participant's home or in our research office.
- ❖ Questionnaires completed by participants included demographic forms, Parent Asthma-Related Anxiety Scale (PAAS) and Youth Asthma-Related Anxiety Scale (YAAS), Asthma Control Test, and reports of current child asthma medications.
- ❖ **PAAS and YAAS.** Children and caregivers rate how frequently they felt nervous or worried because of asthma during the past 2 weeks using a six point Likert scale (0=never to 5=always). Higher scores indicate worse asthma-related anxiety (Bruzese et al., 2011).
- ❖ **ACT.** Assesses frequency of daytime and nighttime asthma symptoms, activity limitation, and patient perception of disease control. Higher scores indicate asthma that is in control (Nathan et al., 2003).

Results

	Mean	Standard Deviation
Youth Asthma-Related Anxiety Scale	1.61	.97
Parent Asthma-Related Anxiety Scale	1.10	.86

- ❖ The Pearson product-moment correlation was used ($r=.08$, $p=.59$). This test showed that there was no statistically significant correlation between parent asthma-related anxiety and child asthma-related anxiety.

Days per week of Quick-Relief Medication Usage	0-2	3-6	Every day of the week
Percent of Participants using Quick-Relief Medication	43%	28%	29%

- ❖ In parents, there was a significant difference in asthma-related anxiety across number of quick-relief puffs (ANOVA results: $F(2,48)=7.12$, $p=.002$).
- ❖ Post-hoc Tukey HSD analyses revealed a significant difference in level of anxiety such that caregivers that reported using quick-relief medication 0-2 days had lower levels of anxiety than caregivers using quick-relief medication 3-6 days a week.
- ❖ The association between child asthma-related anxiety and number of quick-relief puffs was not significant ($F(2,48)=.016$, $p=.984$).
- ❖ With asthma control in the model, the association between parental anxiety and rescue medication usage was no longer significant ($F(1,45)=.699$, $p=.408$).

Discussion

- ❖ Our findings suggest that higher caregiver asthma-related anxiety may be associated with more child rescue medication usage. However, this association was not significant when controlling for asthma control.
- ❖ These findings are important to consider when looking at a child with asthma because poor asthma management could be associated with higher parent asthma-related anxiety.
- ❖ If providers are aware of parent and child asthma-related anxiety levels, they could work with the families to determine the most appropriate way to approach asthma management techniques in the context of disease-specific anxiety.
- ❖ Our results suggest the importance of focusing on child anxiety in addition to parent anxiety as children and parents may be reporting different levels of anxiety related to asthma.

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