Background

- 6.8 million children in the United States were diagnosed with asthma in 2010.²
- Children with the highest risk of deficits in lung function growth often display asthma symptoms before age three and as many as 50–80% of children with asthma develop symptoms before age five.⁶
- Children engaged in health education have decreased morbidity and increased self-efficacy.⁵,⁷,¹¹
- There are currently no asthma educational materials designed for preliterate children.¹,³,⁵,⁹
- Children ages 2-5 learn through play.¹⁰
- 72% of children ages 0-8 have access to mobile devices.⁸

Purpose Statement

To explore preliterate children’s (3-5 years) understanding of asthma causes, symptoms, and treatments and educational strategies for this age group.

Study Design

Design
- Qualitative semi-structured interview
- Direct participant observation

Sample
- To date, three children, ages three to five who meet at least 3 of 4 of the National Asthma Education and Prevention Program’s criteria for asthma were interviewed.
- Interviews will continue until data saturation.

Data Collection Procedure
- One 15 minute interview and one 15 minute free-play time observation for each child.
- Children receive vignettes that correspond to different emotions and symptoms to help facilitate communication during interviews.
- The interview helps determine the child’s knowledge about asthma and the observation helps determine toys the child prefers.
- Children are recruited by sending flyers to the entire preschool.

Analysis
- Qualitative content analysis of the data using Nvivo
- Human subjects
- IRB approval via a expedited board mechanism (UTK IRB-16-03198-XP)

Vignettes

Asthma Understanding
- Two children did not know the term “asthma”
- “When you can’t breathe”
- Selected the vignettes: “Sad”, “mad”, “crying”, and “chest hurting”
- Coughing is primary symptom
- All three children identified someone using a nebulizer as “Someone having trouble breathing”
  - “Because he has a mask”
  - “Because it is blowing air”

Asthma Self-Regulating Behaviors
- Reportedly did not use nebulizers
- Demonstrated how to set up nebulizer, put on mask, or use inhaler

Playing Observations
- Predominantly preferred Hi Ho Cherry-o
- Moved from toy to toy quickly
- Preferred toys that were familiar
- Enjoyed manipulating moving parts of toys

Implications

Lessons Learned
- Obtained enhanced knowledge regarding preliterate children’s understanding about asthma
- Determined which educational techniques will be most effective for educating preliterate children about their chronic disease
- Established ground work for future electronic educational materials for preliterate children with asthma

Future Educational Materials
- Should focus on symptoms and behavioral management techniques
- Should incorporate a “hands-on” component
- Should be created in a format that is familiar to this age demographic

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