

# Using the Health Belief Model to Understand Readmissions to the PICU for Status Asthmaticus

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## Introduction

- Asthma is the leading cause of pediatric hospitalizations and accounts for 20% of PICU admissions.
- Children with asthma who have multiple PICU admissions are at high risk of life-threatening status asthmaticus and presumed to have poorly-controlled asthma.

## Objective

- The aim of this study is to use constructs of the Health Belief Model (HBM) to understand parental perceptions of asthma in children who have been readmitted to the PICU.
- Four of the constructs of the HBM include:
  1. Perceived susceptibility
  2. Perceived severity
  3. Perceived barriers
  4. Self-efficacy

## Methods

- Using a mixed-methods approach, parents or guardians of children ages 4-12 who were readmitted to the PICU for status asthmaticus participated in a survey and phone interview on his or her child's asthma.
- The survey had 30 items on a Likert scale addressing knowledge of and attitudes towards asthma, understanding of asthma medications, and asthma follow up.
- The phone interview expanded on these themes including asthma history and triggers, and barriers to asthma care such as healthcare and pharmacy access, financial constraints, provider communication and discharge coordination.

## Results

- Ten parents participated in the survey and eight parents participated in the phone interview.
- Perceived susceptibility of asthma was moderate and self-efficacy was high, but perceived severity was low.
- Smoking was not perceived as a trigger.
- Parents rarely identified perceived barriers such as insurance issues, medication proficiency and adherence, provider communication, hospital discharge planning, COVID-19, and primary care and pulmonology follow up.

Perceived Barriers to Asthma Care (Likert Scale)	
Understanding of medication administration	4.5
Understanding of Asthma Action Plan	4.6
Adherence of child to medication regimen	4.4
Ability to follow up with pediatrician	4.5
Ability to access pulmonology	3.8
Ability of pharmacy to refill medications	4.7
Ability to pay for medications	3.4
Challenge of asthma care & COVID-19	3.0

*"You know it happens once a year once every couple of years here and there. I'd say it's controlled pretty well."*

*"I have never had [smoking] cause an effect or cause an immediate reaction- I come in the house after I smoked a cigarette and he has an asthma attack."*

Perceived Susceptibility to Asthma (Likert Scale)	
Asthma as a chronic disease	3.9
Prevention with daily medication	3.8
Need for daily medication	4.2
Medication use only when symptomatic	2.1
Spacer use with inhaler	4.1
Flu shot as preventative	3.1
Smoke exposure as a trigger	4.7

Perceived Severity and Self-efficacy (Likert Scale)	
Well-controlled	3.1
Interferes with school	3.5
Interferes with work	3.2
Disrupts home environment	2.2
Emotionally difficult	2.9
Access during COVID	2.8
Confidence in ability to care	4.5

## Conclusions

- Despite several admissions to the PICU for status asthmaticus, most parents reported their child's asthma to be somewhat well-controlled and believed they had strong asthma literacy, proper adherence to medications, and few barriers to care.
- Parents felt confident in their ability to care for their child's asthma.
- Future initiatives should focus on parental education on asthma severity and tobacco cessation along with exploring avenues for brief interval follow ups to reduce risk of readmission to the ICU.

## References

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