Qualitative research in teens with asthma: Understanding patterns of symptoms and self-management

Jennifer R Mammen, MSN NP-C PhD Candidate, Hyekyoun Rhee, PhD PNP, Sally Norton, PhD RN FNAP FPCN FAAN, Arlene Butz, ScD RN

Background
Self-management is central to controlling disease and preventing morbidity and mortality. Many teens have suboptimal asthma control, which is often attributed to poor self-management. Thus it is important to:
- Understand how teens self-manage their asthma
- Understand perceptions and rationales underlying behaviors

In this study, we used interviews, self-management voice-diaries, and card sorting techniques to map teens' unique patterns of symptoms and responses and facilitate in-depth discussion of asthma self-management.

Study objectives:
- To explore teens' experiences of asthma self-management across life-contexts, and to describe how teens manage their asthma
- To understand perceptions and rationales underlying behaviors
- To understand how teens self-manage their asthma

Methods

Design: Theoretically informed case-based qualitative description

Setting: Community, Emergency Department, Pediatric Pulmonary Department, Prior study subjects

Participants: Teen/parent dyads (N=30)

Data collection methods:
- (1) semi-structured first teen interview (1 hour);
- (2) semi-structured parent interview (1 hour);
- (3) 2-week self-management voice diary;
- (4) open-ended second teen interview (1 hour);
- (5) symptom-response card sort to map self-management behaviors

Data Management: Interviews transcribed using modified Jefferson Transcription method and uploaded into ATLAS.ti

Data analysis: open, process, and pattern coding (Saldaña)

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Results

1. Teens have unique treatment thresholds for responding to asthma symptoms.
   - Treatment thresholds = the point at which asthma symptoms are considered important enough to require use of rescue medication
   - Symptoms less than teen's threshold were usually considered low-level, unimportant, and not needing rescue medication
   - Symptom thresholds were individually and contextually variable, and corresponded with the teens usual symptom pattern
   - Teens with uncontrolled asthma had higher thresholds (i.e. delayed response) for reacting to symptoms than teens with controlled asthma
   - The most common treatment threshold was the point at which asthma symptoms interfered with activities

2. Teens with asthma felt that not all asthma symptoms were important.
   - Symptoms that occurred on a regular basis (i.e. daily) were not viewed as serious and were referred to as "normal symptoms"
   - Normal symptoms mirrored teens usual symptom pattern (Ex. Poorly controlled teens considered wheezing "normal"; well-controlled teens did not)
   - Normal symptoms were overlooked, ignored, and not addressed by parents or healthcare providers

3. Clinical definitions of controlled asthma did not correspond well with teens' understandings of controlled asthma.
   - Teens with uncontrolled asthma accepted a higher symptom frequency within their paradigm of "controlled" than teens with well-controlled asthma
   - Symptom thresholds were individually perceived "normal" by teens
   - Teens felt asthma was controlled if they could get the symptoms to go away—either by waiting or by using an inhaler
   - Teens with uncontrolled asthma accepted a higher symptom frequency within their paradigm of "controlled" than teens with well-controlled asthma

Discussion

Our data extend upon prior research, indicating teens underreport and ignore asthma symptoms, by suggesting:
- Targeted self-management interventions and improved health outcomes.

Teens with daily symptoms of asthma may report having no symptoms because they have not exceeded their threshold for perceived "normal" symptoms.

- Clinicians and researchers will need to carefully investigate teens' asthma symptoms to understand which are likely to be normalized and not reported
- Identification of treatment thresholds can contribute to developing:
  - Better understanding of patients' perspectives and experiences
  - Targeted self-management interventions and improved health outcomes

Symptom-response card sort data