Pediatric Asthma: Intersections with Behavioral Health

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Disclosures

- We have no financial disclosures or conflicts of interest
- We might discuss off-label uses of medications or non-standard treatments due to limited research done in pediatric patients

Learning Objectives

- Describe the impact of behavioral health diagnoses on asthma prevalence and outcomes
- Review the socioeconomic, environmental, and mental health factors that influence the prevalence and severity of asthma
- Present key evidence that addressing mental health issues has positive effects on asthma management for adults and their children
- Recommend practical steps to alleviate the burden of asthma through small changes in your practice

Sample Case

- 16yo M admitted to inpatient unit for suicide attempt after taking 60 tabs of Tylenol
  - PMHx of asthma, obesity, and depression
  - Previously on a controller, but mom stopped refilling the controller because she thought he didn't need it any more
  - Referred to a nutritionist by PCP, but found the nutritionist condescending
  - Prescribed Sertraline 50mg daily about 6 months ago but stopped taking it after his insurance lapsed and he couldn't get his refill
  - Used to see a counselor, but stopped going due to transportation issues
- During HEADDSSS exam pt endorses
  - Bullying by other kids at school
  - Restricting activity to try to avoid asthma symptoms (avoids sports, activities with peers)
- Hospital course
  - Stabilizes overnight after appropriate medical treatment
  - Seen in consultation by behavioral health team, who are concerned that he remains suicidal and can not be safely discharged home when medically cleared
- After medical clearance, transferred to inpatient psychiatric unit for treatment of his depression
  - What could the behavioral health team do to support his physical health and maximize his chances of an overall good outcome?

Asthma and comorbid mental health disorders

- Depression and anxiety are more common in pts with asthma than in general population
- Depression and anxiety are directly linked to increased prevalence and severity of asthma, even after controlling for confounders
  - Multifactorial
  - Thought to be bidirectional link between depression/anxiety and severity of chronic medical conditions

Common Comorbidities

- Children with asthma, especially severe asthma
  - Are 2-3 times as likely to be diagnosed with ADHD, depression, or behavioral problems
  - Are 3x more likely to miss >10 school days per year as their unaffected peers
  - Have a modest increased risk of substance abuse, bullying, learning disabilities, and low self esteem
- Some studies suggest
  - Increased severity of asthma symptoms and rates of hospitalizations after stressful life events

Asthma and Suicide

- Multiple studies suggest suicidal ideation and suicidal attempts more common among asthmatic adults
- In one study, asthmatic teens considered suicide at a higher rate than their non-asthmatic peers (31% vs. 16.2%) and the suicide attempt rate was twice the national population rates
- Asthma presence is an independent risk factor for suicidal ideation in minority teens in one study
- Independent risk factor for other mental illness

Health disparities

- Well known that poverty, minority status, and other socioeconomic factors contribute to disparities in health outcomes
  - Less access to care
  - Increased exposure to pollution and other triggers
- Less well known that patients with mental illness have worse outcomes for their asthma
  - More hospitalizations
  - More activity restriction
  - More struggles with adherence

Health Disparities

- Asthma w/ comorbid BH condition
  - Higher burden of medical symptoms
  - Worse asthma control
  - Worse QoL
  - More bronchodilator use (and less adherence to controller medication)
  - Strongest association with Depression, also Anxiety
- Depression associated with
  - Greater asthma severity
  - Greater risk of hospitalization
  - Worse outcomes for chronic medical conditions generally

Adverse Childhood Experiences Correlate with Prevalence of Asthma and COPD

- ACES affect many health outcomes
  - Include: loss of a parent, exposure to physical or verbal abuse, neglect, drug abuse in a parent or caregiver, sexual or physical abuse, among other experiences
  - A British review article from 2015 concluded that:
    - "adverse childhood experience increases the likelihood of developing asthma. […] chronic stress exposure and maternal distress in pregnancy operate synergistically w/ known triggers such as traffic-related air pollution to increase asthma risk.
  - For adult women in Hawaii, a recent study showed that:
    - Each cumulative ACE increased the likelihood of asthma by 7% and COPD by 21%. Even after adjusting for confounders, increased risk persisted

Prenatal and Postnatal Factors

- Maternal stress during pregnancy increases the risk of asthma and other atopic disorders (e.g. eczema) in the child
- Maternal Intimate Partner Violence during a child's infancy is associated with increased risk of asthma in early childhood
  - Children with higher cortisol reactivity saw a greater effect

BH Treatment: Impact on Asthma

- Pts with chronic condition & comorbid BH condition who receive BH treatment have improved chronic condition outcomes
  - demonstrated in DM, HTN, Asthma, others
- 2018 meta-analysis studying chronic conditions with comorbid depression found collaborative care yielded better outcomes for depression, chronic medical condition and illness burden

What to do?

- Consider big picture (life stressors, mental health comorbidities, downstream effects on those your patient cares for) in your assessment & plan
  - Brief but sensitive screeners for depression/anxiety are available (PHQ2/4/9/9A, GAD7)
  - Inquire about psychosocial situation (safety, housing, finances, transportation, school/work)
- Encourage exercise!
  - Beneficial in depression, anxiety, asthma, obesity...
- Assess & address sleep
- Self-care

What to do?

- Address adherence to asthma medication as one of the goals of treatment for your behavioral health patients
  - Assess knowledge and beliefs
    - Education, demonstration
    - Depending on controller meds is NOT a form of addiction!
    - E.g. Inhaled corticosteroids are like a vitamin taken daily to keep the lungs healthy
  - Assess behaviors
    - School administration
  - Assess access
    - Cost of meds can be prohibitive
    - Constantly changing insurance formularies
    - May Rx to "Dispense brand covered by insurance"

Other steps you can take

- Advocate publicly for improved access to care, safe and affordable housing, access to healthy and nutritious foods, etc.
- Support legislative initiatives that reduce pollution, increase supports available at school for children with asthma, and reduce barriers to care
- Educate your patients about the link between mental health treatment and asthma outcomes
- Ask about adherence to medical treatment regularly during behavioral health visits


Thank you!

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