Addressing Mental Health Challenges in Patients with Asthma and Allergic Diseases: Recognition of Mental Health Disorders in Your Patients

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Scope of The Problem: Mental Health Fault Lines

- Need has **significantly** increased

"I'm sorry, but stress caused by trying to figure out your health insurance is not covered by it."
Impact of COVID-19 on Mental Health: General Population

Data from health records for 69 million people in the U.S
- 62,000 with COVID-19
- Approximately 1 in 5 COVID-19 patients received a mental health diagnosis within three months of infection
  - Anxiety, insomnia, and dementia were most common
  - 20% diagnosed with a psychiatric illness for the first time

Taquet et al, The Lancet Psychiatry, 2021
Mental Health: Fault Lines

- Need has significantly increased
- Access to care likely to only worsen
  - Financial barriers
  - Insurance coverage linked to employment

"I'm sorry, but stress caused by trying to figure out your health insurance is not covered by it."
Mental Health: Fault Lines

- Need significantly increased
- Access to care likely to only worsen
  - Financial barriers
  - Insurance coverage linked to employment
  - Not enough providers, period

THIS MEANS:
You Will See A Lot Of Mental Health

“How does my morning look?”
Identify Warning Signs

- Social Withdrawal
- Concentration Changes
- Anger, irritability, or less empathy at work, school, or home
- Attempting to cope using substances
- Not sleeping or eating, or sleeping or eating too much
- Loss of Pleasure
- Hopeless Thoughts
  - Wishing you never woke up
  - Wishing you died instead of someone else
  - Suicidal thoughts (with plan or intent)
- Mental health symptoms sometimes manifest physically (insomnia, GI distress, teeth grinding)

When Are These Symptoms A “Problem”?

- Impairs functioning (school, work, family/relationships)
- Frequency/Time Course: (>6 months of significant symptoms, 2 weeks for depression)
- Symptoms are severe or worsening
- Trauma has no timeline, so it is possible you see symptoms months, even years later
Screen: The Who

• Consider screening all patients
  • Patients with allergic diseases may be at risk of psychiatric disorders, period.
  • In one study, allergic diseases were associated with a 1.66-fold increased hazard of psychiatric disorders (Tzeng et al, 2018)
  • May have only worsened over COVID: Patients with asthma experienced an increase in anxiety and depression levels and were more afraid of acquiring COVID-19 disease compared to controls (de Boer et al, 2021)
• AT LEAST, screen particularly at-risk groups:
  • COVID-19 positive (or family member), Pre-existing psychiatric illness, Caregivers, Women, Frontline workers, Young adults (18-24), Unmarried

Screen: The What

• Done by the physician: PRIME-MD (sensitive, 94%, but not specific, 35%) for depression:
  • Have you been bothered by little interest or pleasure in doing things?
  • Have you been feeling down, depressed, or hopeless in the last month?
  • If just those two questions: as many as 50% of the patients will screen positive and approximately 2/3 of those who screen positive will not have major depression
• If positive, ask 4 follow up ?s: sleep, appetite change, anhedonia (nearly every day for 2 weeks), & loss self esteem/worthlessness (specificity increases to 94%)
  • OR, follow up with the self-report PHQ-9
• Self-Report:
  • Use PHQ-9 or GAD-7 or PHQ-2 and GAD-2 (and more screening if positive)
  • Use Geriatric Depression Scale- Short Form for older adults, minimizes impact of somatic symptoms associated with aging and illness
Screen: The Why

- Have a PLAN for positive screens
  - Know local and national resources (suicide hotline, crisis text line, RAINN)
  - Create handouts for your clinic with the numbers on them
  - Psychologytoday.com is often a good place to start for therapist

- Not everything needs to be given a diagnosis and many reactions do not need medication
  - Normalizing and validating can go a long way
  - Recommend and model coping strategies
  - Apps can help with mindfulness, mood tracking, or as a therapy supplement (or while they wait)
  - Make Follow-up Appointments if time limited

- BUT, there is no wrong time to get patients to help

Any Questions?

Just because someone carries it well, doesn’t mean it isn’t heavy.
Adverse Consequences of Depression, Anxiety and Mental Health Disorders

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Historical Perspective

• Sir William Osler wrote “All writers agree that there is, in a majority of cases of bronchial asthma, a strong neurotic element. Many regard it as a neurosis”
• Franz Alexander included asthma among the original “holy seven” psychosomatic illnesses

Harrison BDW, Thorax 1998;
Hange D et al., European Journal of General Practice (2007)
## Prevalence of Depression and Anxiety in Asthma

### Scott KM et al., *Gen Hosp Psychiatry* (2007)
- World Mental Health Survey (17 countries)
  - Depression: 1.6 (1.4, 1.8)
  - Anxiety: 1.5 (1.4, 1.7)
  - Alcohol: 1.7 (1.4, 2.1)

### Loerbroks A et al., *Int J Epidemiology* (2012)
- World Health Survey (57 countries)
  - Depression: 2.4 (2.1, 2.7)
  - Highest was S. America: 2.9 (2.3, 3.6)
  - Lowest was Australia: 1.7 (1.1, 2.4)

Greater OR in men than women on every continent except Africa

### Lev-Tzion R et al., *IMAI* (2007)
- Male Israeli Army Recruits
  - Any Psychiatric Disorder: 1.2 (1.1-1.3)
  - Mood and Anxiety Disorders: 1.3 (1.2-1.5)

### Trojan TD et al., *AAAI* (2014)
- Cooper Center Longitudinal Study
  - Depression: 1.4 (1.2, 1.7)
  - Anxiety: 1.4 (1.2, 1.7)

### Akula M et al., *J Asthma* (2018)
- Dallas Heart Study
  - Any Psychiatric Disorder: 1.8 (1.3, 2.6)
  - Depression: 1.6 (1.1, 2.3)
Asthma, and even seasonal allergies, may also increase suicide risk.

**Study**

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<th>Odds Ratio (95% CI)</th>
<th>Chung JH et al., Ann Clin Psychiatry (2016)</th>
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<td>• Suicidal Ideation (asthma)</td>
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Caregivers of depressed children also have elevated rates of psychiatric illness.

- Meta-analysis of 25 studies concluded both depression and anxiety were more common in caregivers of children with asthma than caregivers of healthy children.

- Psychiatric symptoms are associated with increased asthma service utilization (depression 50% increase in unscheduled visits; anxiety 43% increase in asthma-related hospitalizations).
When present, depression and anxiety associated with adverse consequences in people with asthma

- Poorer functioning and lower quality of life with depression
- Greater urgent care service utilization with depression  
  ER visits OR 2.1 (1.0, 4.1); Hospitalization OR 3.7 (1.6, 8.4)
- Poor medication adherence with depression  
  OR 11.4 (2.2, 58.2)
- Exaggerated perception of asthma symptoms with anxiety
- Asthma-related death with depression  
  HR 2.7 (95% CI 1.3, 5.8)

Bellia V et al., Chest (2007); Pilipenko N et al., Psych Health Med (2016); Eisner MD et al., Ann Allergy Asthma Immunol (2005); Smith A et al., Chest (2006); Steele AM et al., Allergy Asthma Proc (2012); Miller BD., J Allergy Clin Immunol (1987)

Asthma causes depression or depression causes asthma?

- Meta-analysis of eight prospective studies. Six studies found depression predicts asthma onset RR 1.4 (95% CI 1.3, 1.6, p< 0.001). Two found asthma predicts depression onset RR 1.2 (95% CI, 0.7, 2.1) (p = NS). Gao Y et al., PLoS One (2015)
- However, this analysis looked at adult onset, but asthma usually begins in childhood and depression in adulthood. Small study (n=85) of people with both found asthma preceded depression in 62% of cases; depression preceded asthma onset in 24% of cases; and asthma and depression had a concurrent onset in 14% of the cases. Solis OL et al., Psychosomatics (2006)
Immune and Endocrine

- **Immune/inflammation**
  - Meta-analysis found elevated IL-1, IL-4, IL-6, TNF-α in depression

- **Endocrine**
  - Glucocorticoid resistance
    - Rodriquez JM et al., *Steroids* (2016)

    Allergen exposure to induce airway inflammation in young mice altered brain gene expression related to stress regulation (corticotropin releasing hormone receptor 1, glucocorticoid receptor, serotonin function)


    Mood symptoms related to corticosteroid medications

Genetics

- **Polygenic risk score for depression is modest predictor of childhood asthma risk**
  - Liu X et al., *Brain Behav Immun* (2020)

- **Shared genetic influences between asthma and depression and neuroticism but not anxiety**
  - Lehto K et al., *Eur Respir J* (2019)

- **Mixed findings in twins**

- **Flinders line rates proposed as models of both depression and asthma**
  - Overstreet DH et al., *Neuroscience Biobev Rev* (2005)
Antidepressant treatment appears to improve asthma control in depressed asthma patients

- 90 outpatient adults with asthma and depression were randomized to the SSRI citalopram or placebo for 12 weeks
- Group receiving citalopram required less prednisone for asthma exacerbations than those on placebo

Brown ES et al., *Biol Psychiatry* (2005)

Larger study in depressed asthma patients

- 139 outpatients with asthma and depression were randomized to escitalopram or placebo for 12 weeks
- Randomization stratified to high severity group (high levels of depression and frequent asthma exacerbations) and others.
- In high severity group improvement in Asthma Control Questionnaire (ACQ) and less prednisone use for exacerbations with escitalopram than placebo. No between-group differences in less severe group.

Brown ES et al., *JACI Pract* (2018)
Treatment of depressed asthma caregivers may improve the child’s asthma control

- 205 depressed caregivers (mostly mothers) and child with persistent asthma were observed for 12 months
- Most but not all caregivers received depression treatment
- Proportion of caregiver visits with depression remission (virtual absence of symptoms) significantly predicted baseline to exit change in child’s asthma control and FEV₁% predicted
- Relationship between caregiver depression and child’s asthma control was significantly mediated through improvement in the child’s depressive symptoms but not through changes in adherence

Unpublished data

Collaborators: Drs. David Khan, Bruce Miller, Beatrice Wood and Heather Lehman

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Interventions in Patients with Depression or Anxiety: For Allergists

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Goals

Dr. Gold has discussed the recognition of mental health disorders among atopic pediatric populations.

Dr. Brown has underscored the adverse consequences of depression, anxiety and mental health disorders among atopic pediatric populations.

Goals: Outline interventions to address patient/family anxiety, depression mental health issues for the allergist.
Parental Depiction of Stress
Stress and Coping

- Stressors are demands made by the internal or external environment that upsets balance, thus affecting physical and psychological well-being and requiring action to restore balance (Lazarus & Cohen, 1977).

When faced with a stressor, a person will evaluate the potential threat (primary appraisal).

**Primary appraisal** is the judgment about the significance of an event as stressful, positive, controllable, challenging or irrelevant.

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Stress and Coping

- Facing a stressor, the second appraisal follows, which is an assessment of people’s coping resources and options (Cohen, 1984).

- **Secondary appraisals** address what one can do about the situation.

- Actual coping efforts aimed at regulation of the problem give rise to **coping outcomes**.
Positive Coping is Active Problem Solving and Healthy Vigilance

- OPTIMISM or an expectation that positive change is possible.
- PRACTICALITY about the kinds of solutions that are feasible.
- FLEXIBILITY in your approach to any problem.
- RESOURCEFULNESS in finding support or additional information that is helpful.

Interventions for the Allergist

Optimism

- Offer hope – positive change can happen.
- Offer empathy.

Practicality about the kinds of feasible solutions.

- Understand the family/child.
- What are barriers to treatment?
Interventions for the Allergist

Flexibility in approaching the problem.
One size does not fit all!

Resourcefulness
Finding additional information.
Finding support for the child/family.

Case Example

- 12 y.o. A.A. Male
- Severe asthma.
- 7 hospitalizations in past year.
- Second of six children.
- Highly involved in football.
- Avoidant Coping Strategy
Outcomes of Positive Coping

- Emotional wellbeing
- Functional Status is improved.
- Health Behaviors are more positive
- Can cooperate with medical procedures.

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