Asthma- Integrative Care

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Mental Health Naturally
Addressing ADD Naturally
Authentic Healing

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By the end of this talk, participants will be able to:

• Describe an integrative model of therapeutic options for asthma
• Describe the safety and effectiveness of herbs, dietary supplements for asthma
• Describe the role of mind-body skills in managing asthma
Asthma CAM Case

Amy Wong is 15 yo who is tired of taking meds and would like to try alternative medicine. She admits she stopped using her steroid inhaler about a month ago. She wants to know about Traditional Chinese Medicine (such as acupuncture). Or breathing exercises, or meditation. She’s not really sure.
Asthma Epidemiology

- 12-15% of kids diagnosed with asthma (8% of 2012 Olympic athletes)
- One of top 5 chronic conditions of children
- Boys > girls
- African American > White
- Risk factors: poverty, prematurity, crowded conditions, obesity, living with a smoker, family history; other chronic health problems
Simple Pathophysiology

1. Inflammation
2. More mucus
3. Bronchospasm
## NHLBI Steps for kids >4 yo

<table>
<thead>
<tr>
<th>Step</th>
<th>Symptoms</th>
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<tbody>
<tr>
<td>Mild, Intermittent (Step 1)</td>
<td>- Daytime symptoms 2 or fewer times weekly</td>
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<td>Mild, Persistent (Step 2)</td>
<td>- Daytime symptoms more than twice weekly</td>
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<td>Moderate, Persistent (Step 3)</td>
<td>- Daily symptoms</td>
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<tr>
<td>Severe, Persistent (Step 4)</td>
<td>- Symptoms every day and night unless treated</td>
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CAM in Pediatric Asthma

- Texas: 81%, prayer, herbal teas, vitamins, massage (Mazur, 2001)
- CAM most common in those with more serious illness, females, higher SES and education; ethnic groups other than African American; Whites most like to tell MD (Rivera, *Ann Pharmacother*, 2004)
Why do patients choose CAM?

- Values (natural, organic, humanistic), cultural factors, and view of life (empowerment, egalitarian) MUCH MORE than
- Dissatisfaction with mainstream care
- Side effects from mainstream care
- Wanting to know they’d tried everything

Astin, JAMA, 11/98
Integrative Therapies

Personalized Care

Biofield

Biomechanical

Biochemical

Lifestyle
Integrative Approach to Therapeutic Options for Asthma

- Biochemical
- Lifestyle
- Biomechanical
- Bioenergetic/biofield
Foundations

Healthy Habits in a Health Habitat

- Fellowship
- Nutrition
- Mindful self-care
- Activity/Sleep

Healthy habitat
Lifestyle

- **Environment**: reduce triggers; don’t smoke
- **Exercise**: do it
- **Mind-Body Therapies**: manage stress
- **Treat allergies and acid reflux**
- **Nutrition**: breastfeed, fish, onions, fruits, vegetables, beans; less salt
Environment

- No smoking – active or passive
- Clean house of dust mites and cockroaches, mold, dander (Kearney, 2014)
- Avoid certain meds: aspirin, beta blockers, ACE inhibitors (margarine? Bolte, 2005)
- Close windows when pollen and pollution high
- Minimize food allergens (cow milk, food additives like sulfites, yellow dye, and benzoate)
- Advocate for clean air, less polluting vehicles
Exercise

• Skiers and ice skaters have very high rates of EIB.
• They can still compete successfully in Olympics
• Keep moving!
• Swimming + spas helpful in adults (Tanizaki, 1993)
• Yoga can help (Cramer H, 2014)
• Breathing exercises: pursed lips breathing, singing, etc. (Fluge, 1994)
Breathing exercises

• Yoga. Pranayama.
  – Inspiration to Expiration time 1:2.
    Eg. count to 5 breathing in and count to 10 breathing out.
  – Slow, deep breaths.
  – Daily, paying attention

• Gradual warm up before vigorous exercise; breathe in thru nose and out thru mouth; cover nose and mouth with loose scarf if cold out

• Buteyko Breathing techniques*
Buteyko techniques

• Buteyko (Russian MD) belief that asthma patients over breathe

• Breathing Technique
  – Trained teachers
  – Nose breathing only; watch self in mirror; self-awareness
  – Sustained shallow breathing, to feel “air hungry” for increasing amounts of time
  – Increase control pauses at end of expiration
  – Increase length of expiration past discomfort thru distraction
  – Practice 20 minutes twice daily

(Cooper. Thorax, 2003)
Stress

- Physiology: psycho-neuro-immunological effects
  - Tends to increase inflammation, increase IgE production, imbalance inflammatory cytokines
  - Tends to increase bronchoconstriction
  - Diminishes expression of the glucocorticoid and beta(2)-adrenergic receptor genes in children with asthma (Miller. *Proc Natl Acad Sci USA*, 2006)

Adverse life events linked to more asthma; acute stressful tasks worsen bronchoconstriction

- Therefore, MANAGE STRESS
Mind-Body therapies

• Hypnosis, yes. National Pediatric Hypnosis Training Institute (Anbar, 2005)
• Autogenic training, yes (Henry, 1993)
• Biofeedback, yes (Lehrer, 2006)
• Meditation, yes, both TM and MBSR (Wilson, 1975; Pbert, 2012)
• Journaling (Warner, 2005)
• Support groups – group visits?
Nutrition

• Breastfeeding is protective (Oddy, 2004)
• Avoid dehydration
• Eat fish, not fried as part of healthy Mediterranean diet (Li 2013)
• Onions and spicy foods reduce histamine release (Dorsch, 1989)
• Try coffee, up to 3 cups daily (Welsh, 2010)
• Decreasing salt may help with EIB (Mickleborough, 2010)
• Avoid obesity
Biochemical

- Medications (not for this lecture!)
- Dietary Supplements: herbs, vitamins, minerals, fish oil
  - Avoid deficiencies of Vitamin D and Mg
  - Consider fish oil and vitamin C
US FDA regulations: DS

1. Supplements can be marketed without testing efficacy.

2. Safety need not be proved before marketing. Burden is on FDA to prove product is unsafe.


4. Structure/function product claims allowed.

5. Label claims do not require extensive evidence.

6. FDA approval not needed for marketing claims.
AVOID Patent Medicines

- Heavy metals - lead, mercury, cadmium
- Toxins - arsenic
- Pharmaceuticals - steroids, antibiotics, hypoglycemic agents, antihistamines, etc.
- > 30% - 40% contaminated
Avoid vitamin D deficiency: TEST

- Vitamin D important for optimal immune function
- Lower vitamin D levels linked to increased risk of asthma
- Supplementing with 500-2000 IU daily can decrease the risk of flares by 60% (Pojsupap, 2014)
- Protect bone density in patients on steroids
Avoid Magnesium deficiency!

“Dietary magnesium intake is independently related to lung function and the occurrence of airway hyper-reactivity and self-reported wheezing in the general population.”

Magnesium

- Smooth muscle relaxant; attenuates neutrophil respiratory burst and stabilizes mast cells
- Higher dietary intake linked to higher FEV1 and lower airway reactivity
- ED – given iv or by nebulizer (Cochrane Database Systematic Review, 2005); most ED docs know it works
- RCT in children of 300 mg daily showed improved airway function and decreased reactivity (Gontijo-Amaral, 2007)
- Excess causes diarrhea
## Magnesium Sources

<table>
<thead>
<tr>
<th>Food</th>
<th>Milligrams Mg</th>
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<tbody>
<tr>
<td>All-Bran (1/2 cup)</td>
<td>120</td>
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<tr>
<td>Black beans (1 cup)</td>
<td>110</td>
</tr>
<tr>
<td>Navy beans (1 cup)</td>
<td>110</td>
</tr>
<tr>
<td>Brown rice (1 cup)</td>
<td>90</td>
</tr>
<tr>
<td>Almonds/Cashews (3 TBL)</td>
<td>80</td>
</tr>
<tr>
<td>Garbanzos or Limas</td>
<td>80</td>
</tr>
<tr>
<td>Raisin Bran</td>
<td>80</td>
</tr>
<tr>
<td>Spinach (1/2 cup)</td>
<td>75</td>
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Anti-inflammatory supplements

- Fish oil - maybe
- Licorice - maybe
- Vitamin C - yes
Omega 3 fatty acids: fish oil!

- Tend anti-inflammatory side of leukotriene production; fish oil better than flax oil, walnuts or algae
- Reduced asthma symptoms with fish twice weekly for at least 9 months
- Less asthma (OR=0.2) in kids if moms eat fatty fish monthly during pregnancy (Salam. J Asthma, 2005)
- RCT; 5.2 gms EPA+DHA, helped with EIB and reduce bronchodilator use (Michelborough. Chest, 2006)
- GRAS if less than 3 grams daily; side effects mostly GI and esthetic; no mercury concern; can take 6 mos. to see benefits
Licorice root - maybe

- Traditional use for coughs in TCM
- *Glycyrrhizin* inhibits 11-beta-hydroxysteroid dehydrogenase
- Approved by German Commission E
- Chronic use -> edema and hypertension
- Contraindicated in DM, HBP, Liver, renal disease, hypokalemia; pregnancy
- Use for < 6 weeks
- No trials in kids or adults with asthma!
- NOT anise
Vitamin C – yes, for EIB, colds and ozone-triggered symptoms

• Antioxidant intake higher in non-asthmatics and higher FEV1
• 500 mg - 2 grams daily Vit C in 3 RCTs reduces EIB by 50%; Spares steroid use in adults (Cohen, 1997; Anah 1980; Fogarty, 2006)
• Block ozone-mediated exacerbations and asthma due to colds (Grievink 1999; Freed 1999; Hemila, 2013)
• Excess causes diarrhea
## Vitamin C

<table>
<thead>
<tr>
<th>Intake (mg/day)</th>
<th>% saturation</th>
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<tbody>
<tr>
<td>60 *</td>
<td>30</td>
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<tr>
<td>100</td>
<td>72</td>
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<td>200</td>
<td>86</td>
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<tr>
<td>400</td>
<td>91</td>
</tr>
<tr>
<td>1000</td>
<td>100</td>
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Bronchodilators: Coffee

- NHANESII: Regular coffee drinkers had 0.71 risk of asthma compared with non-drinkers; dose-effect observed (Schwartz. Ann Epid, 1992)
- Italian studies show significantly less asthma in 2+ cup/day coffee drinkers
- Mechanism? XANTHINES like theophylline
- Up to 3 cups daily
- You know the side effects
Demulcent herbs - maybe

- Coltsfoot (*Tussilago farfara*) – NOT for long-term use b/c UPA
- Marshmallow (*Althaea officinalis*)
- Mullein – no studies
- Slippery elm bark - safe
- Wild cherry – safe, placebo?
SUMMARY Supplements

- Eat fish, fruits, vegetables, beans, bran
- Consider coffee
- Avoid TCM pills
- Avoid deficiencies of D and Mg
- Watch for future research
Biomechanical

- PT – no special benefit
- Massage*
- Cranial, spinal or joint adjustment – no significant benefits in 3 RCTs
**Massage**

- Very common home remedy for asthmatics. Often combined with “rubs” (Vicks Vapo-Rub) (Reznick. *APAM*, 2002)

  - Parent-provided 5/7 nights weekly for five weeks improved lung function
  - Mechanism?
  - Cost, time
Biofield

- Acupuncture
- Healing Touch/TT/Reiki/Qi Gong
- Prayer/Spirituality
- Homeopathy
Acupuncture for ASTHMA

- Not sole therapy for asthma in China
- Improves subjective dyspnea, breathlessness, sleep, overall well-being, QOL (Lewisth. *Chest*, 2004; Wu HS, 2004; Maa SH. 2003)
- Danish study of preschool kids and Egyptian study of school age kids with asthma, 10 txs over 3 months improved symptoms and decreased need for steroids (Karlson, 2013; Elseify, 2013)
Therapeutic, Healing Touch, Prayer

- Subjective improvement
- Case histories
- No RCTs
- Safe
- Not sole treatment!
Homeopathy

- Positive case reports
- One RCT homeopathy and 96 asthmatic kids showed NSD, ceiling effect? (White, Thorax, 2003)
- Very safe as long as not used as rescue medicine for acute attacks
**Practice Changes?**

- Clean environment; no smoke; avoid triggers, including dietary (foods and additives) and medications
- Test for Vitamin D deficiency
- Healthy diet, starting with breastfeeding, followed by Mediterranean diet rich in omega three fatty acids, onions, anti-oxidants, magnesium, vitamin C, and possibly caffeine; low salt; plenty of fluids
- Exercise: yoga, swim; cold weather tips
- Recommend stress management; refer to MH professional
- Recommend parents learn to give massage
- Consider acupuncture
- Asthma plan and diary