



AAFP GLOBAL HEALTH SUMMIT
Primary Health Care and Family Medicine: Health Equity for All

An Example of a Culturally Sensitive Approach to a Global Health Promotion Initiative: Improving the Acceptance and Sustained Use of Safer Cook-Stoves in the Guatemalan Highlands

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A Silent Killer World-Wide

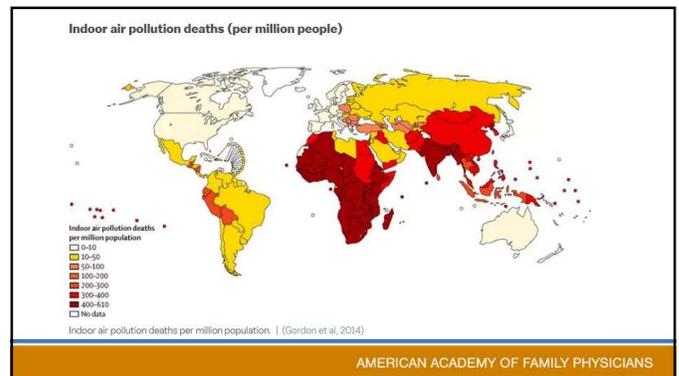


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Learning Objectives

- 1) Understand the significance of the global health burden caused by household air pollution (HAP) from open fire cooking
- 2) Recognize impacts on health equity and development
- 3) Understand the need for culturally sensitive approaches to health promotion initiatives

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Significance HAP

- Deaths from:
 - AIDS in 2018: 770,000
 - Malaria in 2017: 435,000
 - HAP: 4,000,000

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Slide 4

NN1 Nagib, Nancy, 9/24/2019

NN2 World's population? 7.7 billion

3 billion people world-wide use unsafe cooking practices

Kerosene/ solid fuels (wood, crop waste, charcoal, coal, dung)

Open fires or inefficient stoves

Nagib, Nancy, 9/24/2019

Significance of HAP

- Major health outcomes: acute lower resp tract infections & COPD
- Pneumonia is a major cause of mortality in children <5 yo
 - 50% of cases caused by HAP.

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Mechanism of Pollutants

- Carbon Monoxide:
 - Binds to HGB, reducing oxygen delivery
- ↓
- Low birth weight
Increase in perinatal deaths

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Significance of HAP

- Stroke
- Ischemic heart disease
- Lung cancer
- Low birth weight
- TB
- Cataracts
- Nasopharyngeal/ laryngeal CA

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Mechanism of Pollutants

- Biomass Smoke Condensates:
 - Absorption of toxins into lens, oxidative changes
- ↓
- Cataracts

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Mechanism of Pollutants

- Small soot particles/ Sulfur Dioxide/ Nitrogen Dioxide
 - Bronchial irritation/ inflammation/ reactivity
 - Reduced immune response
 - Reduced muco-ciliary clearance
- ↓
- Wheezing/ reactive airway
 - Resp infections
 - COPD
 - Cardiovascular disease
 - Reduced Lung Function in children

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Impacts on Health Equity and Development

"Without a substantial policy change, the total number of people lacking access to clean fuels and technologies will remain largely unchanged by 2030."

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Impacts on Health Equity and Development



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Impacts on Health Equity and Development

- Fuel gathering leads to:
 - Time consumption:
 - Limits women from income producing activities
 - Limits children from attending school
 - Women & children at risk of violence

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Impacts on Health Equity and Development

- Fuel gathering leads to:
 - MSK damage
 - Headaches
 - Back pain
 - Neck pain

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Impacts on Health Equity and Development



Sierra Leone 2017



Sugar Loaf Mountain

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Impacts on Health Equity and Development



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How has the world addressed the global burden of disease caused by HAP?

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World-Wide Efforts

- Gradual shift to cleaner fuels as countries become developed

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Barriers



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World-Wide Efforts

- Lack of access to cleaner fuels
 - physical availability and cost
 - High oil prices
 - Increasing deforestation
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- Distribution of safer stoves

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Barriers

- Culture
- Heating source
- Protection from insects
- Lack of: cleaner fuels and \$\$\$
- Lack of knowledge of harmful effects
- Lack of resources to maintain stoves
- Difficulty installing/ maintaining stoves
- Stoves not conducive to large pots
- Pristine stove for special occasion

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The Unfortunate Truth...

Despite wide distribution of safer stoves, many households resort to cooking over an open fire.

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Challenges



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Failures in Global Health

"Although failures can help us learn, we rarely seem to publish or discuss failed products and strategies in global health..."

<https://naturemicrobiologycommunity.nature.com/users/20892-madhukar-pai/posts/51659-archive-of-failures-in-global-health>

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Stove Programs

- Minimal/ no education with stove distribution
- Document # stoves "installed" or "sold"
- **What remains unknown:**
 - 1) Success/ Failure of large-scale interventions
 - 2) Sustained use rates of the stoves
 - 3) The most successful ways of implementing improved stoves

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<https://youtu.be/aTHwo04Lz7Y>

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