

Exploring the Context of Pediatric Asthma in Chicago

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Prevalence of Asthma

- Asthma prevalence in 5-14 year olds has increased 74% over the past 2 decades in the US
- Prevalence of asthma in children under 18 years old in the US is approximately 12%.
- Caregiver- reported rates of asthma among school-aged children in Chicago range from:
 - 24.4 - 34% for Puerto Ricans
 - 16.8 - 25% for African Americans
 - 12.9 - 14% for Whites
 - 9.2 - 14% for Mexicans

Morbidity Associated with Asthma in Chicago

- In 1996, Chicago had hospitalization rates for asthma that were more than 2 X the national average.¹
- Age adjusted mortality rates in Chicago were 4.7 times higher in African Americans compared to Whites. The national rates were 2.5 : 1 ratio.¹

1. Thomas S D & Whitman S. Chest. 1999;116:135S-141S

Why consider “context” in asthma disparities research?

- Part of the asthma disparity may relate to the higher stress levels of living in poverty. (Brady & Matthews 2002)
- Stress can alter asthma self-management behaviors resulting in worse asthma control. (Wade et al 1997)
- Emerging research suggests that “stress” may be directly contributing to asthma exacerbations or symptoms via the immune system. (Chen et al. 2003; Wright 2005)

Chicago Initiative to Raise Asthma Health Equity (CHIRAH)

- NHLBI sponsored U01 Asthma Disparity Center
- Required: Minority serving institutions to partner with research intensive institutions.
- PIs: Kevin Weiss, M.D. from Northwestern University
Jay Shannon, M.D. from John H. Stroger, Jr.
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Study Goals

- To capture the dynamic life experiences of caregiver-child dyads who are living with asthma over an 18 month period.
- To design an asthma self-management intervention that integrates the contextual information.

Participants:

1. Children with asthma and their caregivers
2. Low to moderately low income recruited from public schools and Archdiocese schools in Chicago

Goal of the Intervention

- Improve asthma self-management in children targeting:

Increased caregiver involvement in care

Proper asthma medication use

Decreasing environmental triggers

Managing barriers to self-management

Demographics of the Children with Asthma

	<u>Mean (SD)</u>	<u>Range</u>
Age	10.5 yrs (1.8)	8-14 yrs
Age dx	3.5 yrs (3.2)	< 1yr to 14 yrs
Time w/dx	7 yrs (3.3)	< 1yr to 14 yrs
Gender	<u>N</u>	
Male	329 (59%)	
Female	232 (41%)	
Ethnicity		
African American	293 (52%)	
Bi-racial	94 (17%)	
Hispanic	86 (15%)	
White	78 (14%)	

Insurance of Children

- Medicaid/Kidcare 271 (48%)
- Private 268 (48%)

- No medication coverage 20 (4%)

- No insurance at some point in the past 12 months 60 (9%)

Asthma Care in the Past 12 Months

- Hospitalized overnight 60 (10%)
- ER visit 222 (40%)
- Same-day office visit 269 (48%)
- Regular care – no asthma 444 (78%)

- Child manages their own asthma 166 (36%)

Demographics of the Caregivers of the Children with Asthma

	<u>Mean (SD)</u>	<u>Range</u>
Gender -Female	525 (94%)	-- 89% mother
Spouse/Partner	314 (56%)	
Born outside US	43 (8%)	
Education		
Less than HS	73 (13%)	
High School/GED	151 (27%)	
Low literacy	162 (29%)	

Health of Caregivers

- Diagnosed with asthma 208 (37%)
- Took asthma meds past year 156 (28%)
- Other medical condition 253 (45%)

Caregivers report of reasons that their children had to skip medications doses

Ran out of daily meds	199	(36%)
Too much going on	126	(26%)
Concerned about side-effects	88	(16%)
Could not get to pharmacy	80	(14%)
Cost of meds/co-pay	68	(12%)

51% of the sample endorsed skipping meds due to at least one of these reasons.

Financial Context

- Household income < \$15,000 112 (20%)
- Household income \$15,000 - 30,000 155 (28%)
- Household income \$30,000 – 50,000 104 (18%)
- Household income > \$50,000 181 (32%)
- Caregivers work 365 (65%)
- Food stamps 224 (40%)
- SSI or unemployment 155 (28%)
- Foster care subsidy 21 (4%)
- 324 (58%) receive some type of assistance

Household Context

	<u>N</u>
■ Spouse/Partner in home	314 (56%)
■ House ownership	201 (36%)
■ Smokers in house	274 (49%)
■ # people in house w/asthma	0-12
■ # of people live in the house	median = 4

Psychosocial Context in the Past 6 Months

■ Changes in regular childcare	120	(21%)
■ Missed rent/mortgage payment	99	(18%)
■ Legal problems	81	(14%)
■ Phone, gas or electric turned off	71	(13%)
■ Went without food	38	(7%)
■ Lost their housing	19	(3%)

Social Context in the Past 6 Months

■ Family member died	158 (28%)
■ Friend died	149 (27%)
■ Divorce or breakup	65 (12%)
■ Family member arrested	51 (9%)
■ Family member in jail	49 (9%)
■ Reunited with partner	40 (7%)

SocioEnvironmental Context - Safety

- Heard violence outside your home 207 (37%)
- Felt unsafe in neighborhood 195 (35%)
- Saw drug dealing in neighborhood 174 (31%)
- Saw violence outside home 129 (23%)
- Child saw violence outside home 122 (23%)
- Felt emotionally/physically abused 85 (15%)
- Child felt abused 61 (11%)
- Victim of crime outside home 31 (5%)
- Victim of crime in home 22 (4%)

Psychological Context in the Past 6 Months

- Caregiver depression 206 (37%)
- Used drugs/alcohol to get
thru the day 45 (8%)
- Lifetime Racial discrimination
 - African American 57%
 - Hispanic 50%
 - White 25%

Goal of the Intervention

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Issues Considered in the Intervention Development

- Insurance status and medication coverage
- Quality of medical care
- Caregiver depression – sense of frustration
- High levels of psychosocial stress
- High numbers of people renting
- Problems associated with poverty
- Multiple people in the same house with asthma
- Literacy

Contextual Factors In Need of Attention

- Racial discrimination
- Caregivers health – outside of asthma
- Exposure to violence
- Loss of relationships – criminal justice system or death
- Actively addressing smoking cessation – discussed as a trigger

Intervention Design

- Community- and home-based intervention.
- Clinical social worker leads 8, 90-minute groups over 5 months for caregivers. A separate child group.
- Asthma community health workers (CHW) make home visits between group sessions.

Intervention - meetings

- Month 1: Group every 2 weeks, 2 CHW visits
- Month 2: Group every 2 weeks, 2 CHW visits
- Month 3: Group every 2 weeks, 2 CHW visits
- Month 4: Group 1 time, 2 CHW visits
- Month 5: Group 1 time, 2 CHW visits

General Outline of Groups

- Movement activity (10 minutes)
- Follow-up on goals set at last meeting / problem solve with the group
- Discuss topic of the session
- Set a goal
- Relaxation activity (10 minutes)
- Wrap up

Group Topics

Session 1: Asthma Education, Action Plans

Session 2: Asthma Education, Stress Reduction

Session 3: Emotions and Coping

Session 4: Physical activity/movement

Session 5: Asthma triggers

Session 6: Prioritizing Your Life

Session 7& 8: Review/Open

Targeted Skill Development

- Self-management & self-monitoring
- Problem solving & coping skills
- Identifying resources – using social support
- Environmental restructuring to avoid asthma triggers
- Exposure to relaxation techniques
- Physical activity – caregivers and children

Thank you.