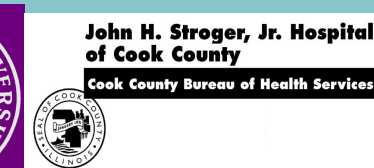


The effect of depressive symptoms on adult asthma morbidity

Shannon JJ¹, Evans A¹, Sadowski L¹, Shalowitz MU², Weiss KB³.

¹John H. Stroger, Jr. Hospital of Cook County; ²Evanston Northwestern Healthcare; ³Northwestern University and Hines VA



Abstract

Rationale: There is growing appreciation of an association between psychological distress and asthma. We explore associations between depressive symptoms and asthma morbidity in a community-derived cohort of adult asthmatics. **Methods:** Adults aged 18-40 with persistent asthma were enrolled at community sites following an elementary school-based screening of families for asthma using population-proportionate sampling. Eligibility for adults included: 1) age 18-40 yrs; 2) diagnosis of asthma and using asthma medications at least 8 weeks during preceding year; and 3) fluent in English. Predictor variables including self-reported education, annual household income, and responses to the Center for Epidemiologic Studies Depression scale (CES-D), asthma symptoms (days and nights with symptoms in preceding 14 days), asthma quality of life (QOL, Mini Asthma Quality of Life Questionnaire) and health care utilization related to asthma in the preceding year were obtained from a baseline face-to-face interview. Linear and logistic regression analyses were used as appropriate.

Results: Our sample of 353 adults was predominantly women (78%) with a mean age of 30.9 yrs (SD 6.1). Self-reported race-ethnicity was African-American (52%), Hispanic (28%), Caucasian and Asian (15%). Depressive symptoms were common: the average CES-D was 16 (SD 11). Controlling for other covariates, higher CES-D scores were associated with lower QOL (for each 10 point increase in CES-D, QOL dropped by 0.3, p<.001); higher symptoms (for each change in CES-D of 10, increase in symptom days of 1.4, p<.001); but not with urgent care visits (p=0.4).

Conclusions: In this cohort of urban adults with asthma, depressive symptoms were common, and associated with important differences in asthma status.

NB: The data presented on this poster are from analysis of a complete dataset

Background and Objectives

Depressive symptoms:

- are common in adults
- more common in those with chronic illness and the poor
- associated with poorer health status.

In a cohort of community-derived adult asthmatics, we sought to determine the socioeconomic and psychosocial predictors of depressive symptoms.

Methods

Setting and Design:

- Cross-sectional survey, face-to-face interviews
- Population proportionate sampling of Chicago elementary schools to identify children and adult household members with asthma

Eligibility:

- 18-40 years, English language, agree to periodic interviews over 2 years
- Physician-diagnosed asthma requiring medication use >8 weeks in the past 12 months

The Chicago Initiative to Raise Asthma Health Equity (CHIRAH) is funded by: NHLBI 1 U01 HL072496-04

Methods-continued

Predictors:

- Demographics-age, sex, self-described ethnicity
- Education/literacy: ordinal variable from 1 (less than high school education and low score on Rapid Estimate of Adult Literacy in Medicine {REALM}) to 4 (college graduate with highest REALM score)
- Household size-number of people living in house past 6 months
- Work for pay-dichotomous yes/no
- Income: pre-tax household income: <\$15K, \$15-30K, \$30-50K, >\$50K
- Insurance status-private, Medicaid, self-pay
- Psychosocial:
 - depressive symptoms (score on 60-point Centers for Epidemiologic Studies-Depression scale {CES-D})
 - racial discrimination-sum of affirmations on 6-item modified Experience of Discrimination Questionnaire (EDQ, Krieger N)
 - social support (average score on 8-item asthma-specific support scale created by our team by Delphi process, ascertaining how often a person has support needed)
 - negative life events in past 6 months (from 63-item CRISYS, Shalowitz M)

Outcomes:

- Asthma-related quality of life: Juniper MiniAQLQ (15-item scale, mean on items: 1-7)
- Asthma symptoms: sum of days and nights with symptoms in prior 14 days (range: 0-28).
- Outpatient visits-count of urgent care visits over past 12 months, capped at ten
- Hospitalization for asthma in past year -dichotomous yes/no

Results: Sample Characteristics of 353 adults

	N (%)
Female	276 (78)
Race/Ethnicity: African-American	184 (52)
Hispanic	99 (28)
Other	54 (12)
Education: < High School	60 (17)
High School graduate	236 (67)
College Graduate	56 (16)
Household Income: < \$15K	86 (24)
\$15-30K	84 (24)
\$30-50K	64 (18)
>\$50K	97 (28)

	N (%)
Age: median in years (range)	32 (18-41)
Insurance status: Self pay	45 (13)
Medicaid	145 (41)
Private	159 (45)
Severity:	
Hospitalized with asthma, past 12 m	46 (13)
Emergency room visit, asthma, past 12 m	143 (41)
Use of inhaled corticosteroids	178 (50)

Results

Impact of CES-D score on asthma status

outcome	p	coefficient	model R ²
Quality of life Juniper MiniAQLQ	<.001	-.04/increase in CES-D	.30
Symptom days and nights	.009	+.12/increase in CES-D	.10
Urgent care visits	NS	-	.07
Hospitalization	NS	-	.75

Other sociodemographic predictors of AQLQ (model R²=.30)

predictor	p	coefficient
Hispanic	<.001	-.7 (compared to white)
African-American	.016	-.5 (compared to white)
Lower education/literacy	.006	-.24 (each step)
Not working for pay	.032	-.3

Conclusions

In this community-derived cohort of adult asthmatics, a substantial change in the CES-D score is associated with lower quality of life and increased symptoms, but is not associated with health care utilization for asthma. The directional and mechanistic relationships between depression and asthma need to be explored for effective interventions to be devised.