Association of Asthma Educators 2019
Poster Abstract Submission Page (DATA)

Title: RURAL-URBAN DIFFERENCES IN OUTCOMES OF AN ASTHMA HOME VISITING PROGRAM

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Background: Multi-trigger, multicomponent visiting programs in the homes of children with asthma effectively improve their asthma symptoms, self-management, and Emergency Department returns[1,2]. Few studies have assessed home visiting programs in U.S. rural areas, where program delivery can be logistically intensive and asthma morbidity and control are worse compared to urban areas[1,3-6]. To determine the feasibility of a rural asthma home visiting program, outcomes of the Montana Asthma Home Visiting Program (MAP) were compared between rural and urban Montana counties. We hypothesized no differences exist between urban and rural participants.

Methods: Between June 2010 and March 2019, 606 children aged 0-17 years were enrolled in the MAP. The program involved 6 contacts over a 12-month period with a nurse or respiratory therapist trained in asthma education and trigger removal. Program outcomes were collected at each visit. MAP sites servicing county(s) with a population greater than 50,000 were defined as urban, and rural if otherwise[7]. Pre and post asthma outcomes were analyzed by rural or urban county using chi-squared, t-tests, and logistic regression.

Results: Of 606 children enrolled, 219 (36%) had completed the program and 66 (30.1%) of these were living in rural counties. Children differed significantly between rural and urban county program completion (n=606, 39.4% vs. 48.1%) and minutes spent conducting 3/9-month visits (average, 18.7 vs. 36.1). On average, rural county participants had significantly greater improvements in ACT scores (mean difference, +1.79) and confidence in handling an attack (+0.81), but significantly smaller improvements in missed school days (-2.47) and caregiver missed work (-1.55) compared to urban county participants. Rural county (aOR=2.02, 95%:0.42-9.66) was not associated with asthma control in multivariate regression.

Conclusion: Children from rural areas have worse asthma morbidity at baseline but greater potential for improvement. A 12-month asthma home visiting program is feasible and effectively improves asthma outcomes in rural and urban areas.