

Abstract

Background/Purpose: Asthma is a common chronic pediatric disease that varies in severity over time. Social determinants of health (SDOH) such as socioeconomic status, housing, and food access can greatly impact asthma outcomes. The Colorado Comprehensive School-Centered Asthma Program (AsthmaCOMP), a school-centered program funded by CDPHE, strives to improve asthma control, screens for SDOH, and provides referrals to appropriate agencies. The program utilizes asthma navigators to work closely with school nurses and families. We hypothesized that children and families with reported SDOH needs would be disproportionately impacted by COVID-19.

Methods: Upon enrollment, some caregivers of students enrolled in AsthmaCOMP reported one or more SDOH needs (“SDOHrep+”) while others reported none (“SDOHrep-”). To assess asthma control, the impairment domain was measured by Childhood Asthma Control Test (cACT) scores and the risk domain was measured by exacerbations defined as hospitalizations, ED visits, and systemic steroid therapy due to asthma. Impairment and risk were recorded at baseline, the one year after program enrollment representing one-year pre-COVID, and the second year after enrollment representing one-year during COVID. Paired t-tests compared data at baseline to follow-up visits for each group.

Results: The SDOHrep+ group had significant improvement in ACT scores from baseline to pre-COVID ($p=0.01$) and during COVID ($p=0.01$). The SDOHrep- group showed modest improvement in cACT scores. Asthma risk, as indicated by exacerbations, decreased significantly in the SDOHrep+ group. The SDOHrep+ group had a higher percentage of program retention (64%) compared to the SDOHrep- group (47%).

Conclusions: Asthma control improved in both groups as indicated by improvement in cACT scores and/or reduction in asthma exacerbations. The program benefitted both groups, especially those with reported SDOH needs. More children were retained in the SDOHrep+ group, possibly due to the navigators’ providing referrals for SDOH.