Integrative Approach to Asthma Education in a School Based Health Center

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INTRODUCTION

- Asthma is a chronic illness that results in significant disability and increased mortality. In Winnebago County, 13.4% of households in this region have children with asthma (Rockford Health Council, 2014.)
- School based, culturally-centered asthma education programs such as the American Lung Association’s (ALA) Kickin’ Asthma have been proven to be an efficient approach (Morrice et al, 2016).
- Gaps exist on findings for outcomes such as school absences, asthma control, unscheduled acute visits and grades.

PURPOSE

This pilot study introduces asthma education in a school setting and examines the association between participation in the ALA’s Kickin’ Asthma program and:

- Written asthma action plans
- Improved asthma control
- Improved asthma knowledge
- Visits to school nurse
- Visits to school based health center
- School absences
- Grades

THEORETICAL MODEL: CIRCLES OF INFLUENCE

OUTCOMES

Increased acute case visits to School Based Health Center (SBHC) or school nurse for asthma-related events:

- Fall 2015: 1 visit to SBHC; 2 visits to school nurse
- Fall 2016: 0 visits to SBHC; 1 visit to school nurse
- Slight downward trend of # of acute episodic asthma-related visits

Decreased missed school days:

- Fall 2015: 3.5 missed days (SD=4)
- Fall 2016: 0.6 missed days (SD=0.9)
- Children missed fewer school days after attending program though not significant ($p=0.214; \textit{df}=4; \textit{p}=0.113$)

Maintained excellent grades (Table 2):

- Fall 2015: 91.7%
- Fall 2016: 90.1%
- Grades remained within A range ( <1% difference)

An increase in the number of written asthma action plans or updated existing asthma action plans:

- Baseline: 40% without an asthma action plan
- Post 100% with updated asthma action plans

Improved scores on Asthma Control Test (ACT) (Asthma Control Test, Schatz et al, 2006).

- Baseline mean: 18.1 ACT score
- Post-study mean: 19.5 ACT score
- 5-month follow-up mean: 20 ACT score
- Improvement noted but not statistically significant

Improved scores on Asthma Knowledge Questionnaire (Fitzclarence, 1990).

- Baseline mean: 70%
- Post-study mean: 92.5%
- 5-month follow-up mean: 80%
- Modest improvement in knowledge scores maintained over a 5 month follow-up

CONCLUSIONS

The results of this integrative asthma education pilot study indicate:

- Increased number of up-to-date asthma action plans. This is consistent with current guidelines promoted by the American Lung Association and the American Academy of Pediatrics.
- Post Asthma Control Test (ACT) scores improved which reflects asthma control.
- Post study knowledge scores were improved initially but declined slightly at five months. This finding may reflect the need for an additional class review every month.
- Fewer missed school days.
- Decreased number of acute asthma visits to School Based Health Center and school nurse.
- Although students missed their study hall, their overall GPA remained in the A range.

IMPLICATIONS FOR NURSING

- Practice: APNs and elementary school systems can have successful partnerships to further health care models in childhood chronic disease management.
- Policy: Encourage school officials and community groups to work together for the benefit of the children and remove barriers that prevent collaboration.
- Research: Capture all outpatient services; implement in diverse school districts and measure longitudinal sustainability & results.
- Education: This model of education for children with asthma can be applied to ongoing care, Expansion to include student nurses and APN faculty should be a priority.

REFERENCES


Scott, A., Datta, S., Steinberg, S., Reiter, M., Shedd, E., 2014. Interventions to improve students with asthma (ASA) with a history of behavioral health problems. Pediatrics, 133(6), e1396-e1403.


