

School Nurses and Children with Asthma

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Clinical Question:

Does case management by a school nurse for students with asthma reduce school absenteeism and improve asthma control?

Articles:

Engelke, M.K., Guttu, M., Warren, W.B, & Swanson, M. (2008). School nurse case management for children with chronic illness: Health, academic, and quality of life outcomes. *The Journal of School Nursing, 24*(4), 205-14. Retrieved from EBSCOhost.

Levy, M., Heffner, B., Stewart, T., Beeman, G. (2006). The efficacy of asthma case management in an urban school district in reducing school absences and hospitalizations for asthma. *Journal of School Health, 76*(6), 320-324. Retrieved from CINAHL.

Taras, H., Wright, S., Brennan, J., Campana, J., & Lofgren, R. (2004). Impact of school nurse case management on students with asthma. *Journal of School Health, 74* (6), 213-219. Retrieved from CINAHL.

Synthesis of Conclusions:

The overall qualities of the studies were good, meeting all research design-specific criteria. The studies had a variety of sample sizes, Engelke observed 114 children, Levy 14 schools with >350 students with 97% being African American, and Taras 8 of 151 schools with 1094 students'. Only one of these studies included the parents of the children with asthma. The length of studies ranged between 1-3 years. All the studies have similar recommendations, which states that further research need to be done.

The study by Levy, Heffner, Stewart, and Beeman (2006) was a randomized control study at a level two hierarchy of evidence. Levy et. al. (2006) reports that students who attended the Case Management (CM) school had less days of absenteeism than their counterparts in the Unchanged (UC) schools. Students who attended CM school attended approximately 3.80 more days and had fewer emergency room visits, fewer hospital stays as well as fewer urgent care visits as compared with UC schools. CM school students also showed significant improvements in asthma knowledge and their parents also showed an increase in their knowledge about asthma. After 2 years the CM schools kept showing improvements in asthma knowledge, less hospitalizations and less emergency department visits. A limitation for

this study would be that the sample size was considerably small with only having 115 and 128 students participate in the study. Another limitation is that the majority of students that participated in this study were of African American race which doesn't allow for different ethnic involvement.

The study by Taras, Wright, Brennan, Campana, and Lofgren (2004) was a retrospective study that looked at previous data and was a Level IV hierarchy of evidence. The purpose of this study was to "evaluate the feasibility of asthma tracking and asthma case management by school nurses in one school district" (Taras et al, 2004, p. 213). Of the 149 potential school sites, school nurses in 94 schools used the surveillance instrument in the first year. By the second and third year the number of schools increased to 134 and 146 schools respectively. Results demonstrated children with asthma were absent from school more frequently than children without asthma. The study also tracked case management with students with mild and moderate/severe asthma. The case management was broken down into "a) availability of medication at school, b) peak flow meter use in school, c) decrease in absenteeism rate, and d) change in nurse-diagnosed asthma severity classification from one year to the next in either direction." (Taras, et al, 2004 p 216). "The most significant finding was that asthma tracking in combination with school nurse case management showed promising signs of improving the medical management of asthma." (Taras, et al, 2004 p 218). The study however had some limitation/ weaknesses: Nurses didn't have a set definition of asthma between mild, moderate and severe with each nurse developing their own definition of the severity of asthma. Also not all schools participated for all three years in this study. In conclusion there need to be more case management and more nurses to the student ratio this alone with improve morbidity and student absenteeism rates. More research needs to be conducted on this topic.

The study by Engelke, Guttu, Warren, Swanson (2008) is a prospective study, level IV hierarchy of evidence. "This study examined health and academic outcomes for children with chronic illness who received case management from school nurses." (Engelke et. al. 2008 p. 213). The results showed that school nurses improved quality of life in children who have asthma. The students who received case management by the nurse showed improvement psychosocially. In this study some children's attendance improved where as other children's

attendance stayed the same or became worse. A limitation of this study was because attendance was hard to measure because of discrepancies in how attendance was measured each semester. Strengths of this study were that the population for asthma children was large and also some of the information of the project was featured in some of the local newspapers. Some limitations included: that attendance was not measured effectively between the schools; the study was not random due to lack of resources.

Bottom Line:

Although each study stated further research needs to be done. Each study shows that having a school nurse use case management has a positive impact on student attendance, and increase in quality of life with children who have asthma.

Implications for Nursing Practice:

School nurses can use this evidence when visiting with parents about their child with a chronic condition of asthma. Implementing case management in school nurses is known to show a decrease in school absenteeism and an increase in quality of life.