



## THE EFFICACY OF NURSE-LED HEALTH PROMOTION INTERVENTIONS IN SCHOOLS

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### Abstract

School nurses engage in proactive measures to enhance the physical and intellectual well-being of pupils by interacting with students, parents, and school personnel. We performed an integrated literature analysis of existing research to outline the various kinds of interventions carried out by school nurses, as well as the educational and health outcome measures. Additionally, we investigated the correlation between school nurse interventions and student outcomes. A total of sixty-five studies satisfied the inclusion criteria. We used the National Association of School Nurses' Framework for the Twenty-First Century School Nursing Practice to classify school nurse interventions and assess health and education outcome metrics. Most of the treatments were classified under the idea of care coordination, with motivating interviews and counseling being the most frequently used approaches. Seventeen research have shown a correlation between school nurse interventions and enhanced student outcomes. The majority of studies (80%) were of a descriptive nature. In order to further develop the field of school nursing science, scholars may enhance the existing knowledge by using more rigorous research methodologies to assess the effects of school nurse activities and interventions on the health and educational outcomes of students.

### 1. Introduction

School nurses take action to promote the physical and mental health, academic performance, and long-term success of children (National Association of School Nurses [NASN], 2016a, 2017a). School nurses enhance the well-being and security of students by offering instruction, remedies for sudden and ongoing illnesses, public health initiatives, and case management services to encourage self-care and advocacy while reducing health-related obstacles that impact student education (American Academy of Pediatrics [AAP] Council on School Health, 2016; NASN, 2017a).

Prior research has provided descriptions of the responsibilities of school nurses and methods for



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assessing the health and educational achievements of students (Johnson, Bergren, & Westbrook, 2012; Selekman, Wolfe, & Cole, 2016; Stock, Larter, Kieckehefer, Thronson, & Maire, 2002). However, NASN (2016c) has called for further studies to investigate the effects of school nurse interventions on student outcomes and nurse-sensitive indicators such as attendance, health office visits, and immunization rates. The objective of this integrated literature review was to examine empirical study results about the connections between school nurse interventions and activities and the health and education outcomes of school children.

## **2. Methods**

This review was performed in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (Moher, Liberati, Tetzlaff, Altman, & the PRISMA Group, 2009). The studies were discovered by a comprehensive search of several databases, including PubMed, Cumulative Index of Nursing and Allied Health, PsycINFO, Academic Search Premier, Education Resources Information Center, and Social Work Abstracts. We collaborated with a knowledgeable nursing reference librarian to guarantee that our literature search was comprehensive. In order to find the most recent publications, we first searched each database for studies that were published between January 1, 2011, and December 31, 2016. Subsequently, on July 30, 2017, we performed an additional search to include any articles published between January 1, 2017, and July 30, 2017. The search phrases used were a mix of school nurse, school nursing, health or education outcomes, chronic or acute condition, medication administration, allergies, health education or knowledge, and screening.

The included studies were those that presented empirical results, published in English in peer-reviewed publications, and performed inside the United States. Only studies that focused on the health services given by school nurses, the viewpoints of school nurses, or the perspectives of the school nurse role on the health and education outcomes of school-aged children were included.

## **3. Interventions and Activities by the School Nurse**

The analysis revealed that slightly more than 50% of the interventions and activities performed by school nurses fell under the category of care coordination, aligning with existing knowledge regarding the healthcare services offered by school nurses. School nurses play a crucial role in both the medical/nursing field and the educational field. This promotes the cooperation between school nurses and experts in the medical sector, allowing for the coordination of student healthcare with their medical home, school, and family (McClanahan & Weismuller, 2015; NASN, 2017a). The care coordination concept mostly used chronic illness management as its primary component. With the rising prevalence of chronic illnesses among children, it is crucial to ensure the presence of school nurses who can assist students in effectively managing their chronic health problems and offer direct care and case management (Leroy, Wallin, & Lee, 2017; NASN, 2017b).

Notably, most research on chronic illness care have primarily examined the experiences and opinions of school nurses, with only a limited number of studies investigating actual treatments carried out by school nurses. Examining the experiences and perceptions of school nurses offers a detailed account of their activities, as shown in a qualitative study conducted by Merriam and Tisdell (2016). However, further research is required to assess the effectiveness of school nurse interventions in helping students manage their chronic conditions, as highlighted by the National Association of School Nurses (NASN, 2016c). Additionally, there is potential for further study to explore care coordination elements that were not identified in this evaluation, such as education, multidisciplinary teams, nurse delegation, student self-empowerment, and transition planning.

The study revealed that school nurse interventions and activities, which fell under the community/public health premise, were the second most prevalent. This outcome was anticipated since the field of school nursing is based on community/public health principles (NASN 2016a, 2016b; Schaffer, Anderson, & Rising, 2015). The majority of the community/public health studies were classified under the screenings/referrals/follow-up component. Conducting screenings, making referrals, and providing follow-up are essential secondary prevention methods that help school nurses ensure the safety, health, and readiness of children by identifying health problems before they become more serious (AAP Council on School Health, 2016; NASN, 2016b, 2017a). It is important to mention that the screening component of the research focused on several kinds of screenings that addressed a wide range of health conditions in school-aged children. There is a significant potential for conducting research studies on various aspects of community/public health principles that were not covered in our literature review. These include access to care, cultural competency, disease prevention, environmental health, health equity, health promotion, outreach, risk reduction, social determinants of health, and Healthy People 2020.

#### **4. Measures of health and education outcomes**

Approximately 50% of the research included in this review focused on different health outcome measures, with slightly more than 50% falling under the category of care coordination, namely the component related to managing chronic diseases. Prior research has demonstrated that school nurses administer care that enhances the health and educational achievements of students with chronic health conditions. They are capable of offering care coordination, health education, and reducing long-term health problems while addressing the requirements of students and their families (Leroy et al., 2017; NASN, 2017a, 2017b). Only a small number of research included measurements of educational outcomes. It was unexpected that there were just a few studies that measured education outcome measures, considering the importance of keeping children in school and the favorable relationship between health and academic achievement (Engelke et al., 2009; NASN, 2017a).

Assessing education outcomes is crucial for comprehending the connection between school nursing practice and student academic performance (Selekman et al., 2016). It also provides

essential information for school nurse leaders, stakeholders, and decision makers to make informed choices regarding local resources and budgets that could affect student health (Endsley, 2017; Taras, 2014). Unsurprisingly, researchers were more inclined to assess outcomes linked to absenteeism rather than outcomes connected to academic achievement. This finding aligns with other research, since it suggests that although school nurses have an impact on academic achievement, other experts in the fields of education and health also have a role (Maughan, 2003).

Multiple research in the review examined comparable health or education outcomes, although there was a lack of standardization in terms of definitions and metrics. Reducing asthma symptoms was a crucial objective, which was assessed using several metrics such as the frequency of symptomatic days, asymptomatic days, and the proportion of students who achieved their symptom reduction targets. Scientists that assessed individuals' views and enhancement in their understanding of asthma used tailored questionnaires for their research.

In order to assess the availability of epinephrine pens in schools, the researchers calculated the average number of epinephrine devices per school and the number of pupils who had access to these pens. Educational results were assessed using several methodologies. Absenteeism was assessed by the measurement of both partial and complete days of absence, instances of tardiness to class, and time spent outside of class. Academic achievement, on the other hand, was evaluated by considering grade point average and standardized test results. We propose the establishment of uniform definitions for outcome measures in order to facilitate the creation of standardized data sets. Furthermore, using a standardized approach to measuring student outcomes might enhance our comprehension of the impact of school nurse interventions on both student health and academic achievement (Johnson et al., 2017; Selekman et al., 2016). Take action and make your voice heard! Seeks to do this by using consistent data points and a structured reporting system (Johnson et al., 2017; Leroy et al., 2017; Maughan et al., 2014).

##### **5. Positive outcomes have been associated with interventions conducted by school nurses**

Our literature search found that only 25% of the studies examined the connections between school nurse interventions and student outcomes. The majority of these research were classified under the concept of care coordination, which had the highest number of studies that satisfied the inclusion criteria for this literature review. The school nurse's interventions had a favorable impact on students who had life-threatening disorders such as asthma and diabetes, as well as on students with major health concerns including obesity, anxiety, or being bullied. favorable results were seen in nursing case management for chronic illnesses. Additionally, favorable outcomes were found in school nurse interventions, which included nurse-led teaching and support groups, screening, and vaccine monitoring. Communicating the importance of evidence-based school nursing interventions that are connected to improved health and education results is a potent resource for school nurses. School nurses who possess the ability to communicate research

findings on the connection between positive student outcomes and nursing interventions to relevant parties will have an advantage in advocating for and utilizing necessary resources to enhance child health. This includes securing more school nurses and obtaining reimbursement for school nursing services.

This literature analysis highlights the need for more research that goes beyond mere description and explores the connections between school nurse interventions and outcomes related to health and education. The majority of the studies included in this review used descriptive designs to elucidate the features and conclusions of their projects, which aligns with earlier research findings (Lineberry & Ickes, 2015; Stock et al., 2002). Developing more resilient and meticulous correlational and experimental research studies would enhance the scientific understanding of school nursing and promote the well-being of school children. School nurses may collaborate more effectively with nurse researchers from schools of nursing to identify pertinent practice issues and outcomes, and jointly develop analytical research designs that expand upon descriptive studies.

Graduate nursing students have the opportunity to engage in research related to school nursing by working together with practical school nurses. Promoting discussion on research studies that had negative student results would also enhance the practice of school nursing as researchers and school nurses collaborate to evaluate school nurse interventions, outcome measures, and study designs. Possible methods for promoting such discussions could involve delivering presentations, organizing round table or panel discussions during conferences, establishing a blog for sharing unpublished research, and publishing studies that did not yield positive results but contribute to the knowledge gained from conducting the research.

This research identified a wide range of school nursing interventions that were very relevant to the framework. Additionally, it unveiled a lack of uniformity in the use of definitions and metrics for school nurse interventions and activities, as well as student outcomes. Developing a comprehensive database of school nursing treatments, complete with standardized definitions and outcome measures, has the potential to enhance the field of school nurse science. This database would facilitate knowledge sharing among researchers, enabling them to learn from one another and conduct more advanced analyses of findings from various studies. Furthermore, it is advisable to motivate school nurse researchers to duplicate studies in order to investigate more reliable results, while striving to conduct research studies using more sophisticated and reliable research methodologies.

## **6. Conclusion**

The review used the Framework for 21st Century School Nursing Practice to effectively analyze school nurse interventions and activities, health and education outcome metrics, and the correlation between school nurse interventions and good student outcomes in existing research literature. Currently, there is a lack of comprehensive research studies that explore a wide range of school nurse interventions, student health issues, study designs, and outcome measures.

Furthermore, there is a dearth of uniformity in the manner in which results are assessed. To advance the field of school nursing science, researchers may enhance their work by building upon existing descriptive studies, broadening the range of treatments and study designs, repeating studies, using standardized definitions and measurements, and investigating the connections between interventions and outcomes.

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