

THE CORRELATION BETWEEN MEDICATION ADMINISTRATION AND THE MORAL DILEMMAS
SCHOOL NURSES ENCOUNTER

by

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Introduction

Medications are administered every day to children in schools for a widespread of health conditions. School nurses are most often the persons responsible for safe and effective medication administration in the school setting. Medication administration is an important focus area in nursing because it is a common intervention performed by nurses in many practice settings. School nurses may have one or multiple schools in their assigned workload depending on their employer and resources allotted for school nurse positions. Due to differing workload situations, school nurses may or may not administer medications to students. Some must delegate this task to other school personnel, unlicensed assistive personnel (UAP). The increasing prevalence of medical conditions in school-aged children and the resulting need for an increased amount of medication needed to manage these conditions has initiated the need to further investigate medication administration and management in the school setting (Maughan, McCarthy, Hein, Perkhounkova, & Kelly, 2017). With the increase of children needing medications while at school, it is important for school nurses to advocate and implement safe medication administration by practicing the six rights of medication administration, while also following the schools policies and procedures to ensure safety of students.

Background

There are approximately 50.1 million children in grades kindergarten through 12, with up to 27% experiencing a chronic health condition (Cleave, Gortmaker, & Perrin, 2010). With statistics like this, inevitably there is a need for medications to treat or control the varying health issues children are experiencing. The necessity for students needing medications at school has risen over the last two decades because many students who attend school have complex and chronic medical problems (Institute for Safe Medication Practices [ISMP], 2012). The National Coordinating Council for Medication Error Reporting and Prevention [NCCMERP] (2015) recommends that institutions have proper policies

and procedures in place, that all personnel are properly trained, include guidelines for: who can administer medications, how medications should be labeled and stored, documenting medication dispensing, and disposal of unused medications. Proper policies and guidelines are necessary for staff to address questions and issues related to medication administration with the primary goal to provide safe medication administration and reduce mistakes in day-to-day practice.

Errors in medication administration are the most common medical errors (Cloete, 2015). In the Medication Management in Schools survey, 77.9% of the school nurse respondents indicated that medication administration was often delegated to UAP (Maughan et. al, 2017). There appears to be a correlation between school nurses who oversee multiple schools and the occurrence of medication errors. Nurses who cover multiple schools were more likely to indicate occurrence of medication errors at their representative schools. This could be related to a result of an under-resourced system because the nurse cannot be at every site to provide direct supervision (Maughan et. al, 2017). School nurses may delegate the responsibility to UAP to dispense medications to students. However, with this delegation there is an increase in medication errors made by UAP when they are designated to dispense medications to students (ISMP, 2012).

School nursing is grounded in community and public health where health promotion and disease prevention is one of the primary roles of the school nurse (NASN, 2016). The Institute of Medicine (IOM) (2010) recommended “nurses should practice to the full extent of their education and training.” The NCCMERP (2015) indicates that school nurse workloads must account for not only administration of medication but also for other duties and work environment activities that impact student safety. School nurses provide primary, secondary, and tertiary means of prevention. The school nurse’s implementation of primary prevention by providing health education that promotes physical and mental health and informs healthcare decisions, prevents disease, and enhances school performance (NASN, 2016; Quelly, 2014). Screenings, referrals, and follow-up are secondary prevention strategies that school

nurses utilize to detect and treat health-related issues in their early stage (NASN, 2016; Quelly, 2014). They additionally provide tertiary prevention by addressing diagnosed health conditions and concerns (NASN, 2016; Quelly, 2014). Some perceived barriers impeding school nurses to fulfil their full scope are insufficient time, administration and policies, workloads, and lack of resources, preparedness, and support (Quelly, 2014). Among school nurses who primarily administer daily medications, time spent administering medications may limit time to practice to the full scope of their education including care coordination and health promotion activities.

Medication administration practices among school nurses vary between those that delegate the task to school personnel and those who administer medications daily. Due to varying practice along with the number of medication errors in schools, school nurses may experience moral dilemmas associated with medication administration in their practice. There is no evidence in the literature of moral dilemmas associated with medication administration in school nurses.

Literature Review

Purpose of review

The purpose of this literature review is to locate evidence and literature related to school nurse medication administration practices and recommendations, prevalence of illnesses in children, medication errors, delegation, and moral dilemmas in school nurses. It is important to investigate this area of study given that there has been no previous research specifically examining moral dilemmas associated with medication administration in school nurses.

Search process used

An extensive online search of online databases including CINAHL, ProQuest, and Pubmed was undertaken to source articles. Additional websites were also used such as, the National Association of

School Nurses, the American Academy of Pediatrics, the United States Center for Disease Control, the Institute of Medicine, and the National Education Association. Key terms employed during these searches included a combination of the following terms: school nurses, medication administration, moral dilemma, and moral distress. This search revealed multiple studies, articles, position statements, guidelines, and standards of care for school nurses regarding medication administration.

Major findings of review

School nurses, grounded in ethical and evidence-based practice, are the leaders who bridge health care and education, provide care coordination, advocate for quality student-centered care, and collaborate to design systems that allow individuals and communities to develop their full potential (NASN, 2017). The role of school nurses is exceptionally diverse and practice varies greatly. School nursing practice is guided by the Scope and Standards of School Nursing Practice and is impacted and governed by federal regulations and mandates, state regulations that shape nursing practice, and state educational systems that determine qualifications and regulations around definitions of school nursing (Willgerodt, Brock, & Maughan, 2018). State nursing practice acts vary by each state and influence the scope of practice, including regulations of delegation of specific tasks such as medication administration. Most known demographics concerning school nurses is obtained from the National Association of School Nurses [NASN] surveys. The NASN school nurse survey in 2015 indicated that 83% of school nurses were employed by a public-school district, where they worked in an average of three buildings, with an average of 924-1,072 students total (Mangena & Maughan, 2015). The CDC estimates that only 35.7% of public schools have a full-time school nurse and 25% do not have a nurse (CDC, 2013). Many references call for having a full-time registered nurse at every school all day, every day (NASN, 2016; Rollins, 2011; American Academy of Pediatrics, 2016; American Nurses Association, 2017). According to NASN, the recommended nurse to student ratio is 1:750 for overall healthy students and 1:225 for student populations that may require daily professional school nursing services or interventions,

however; 34 states fail to reach these minimum standards (Rollins, 2011). This results in many school nurses maintaining responsibility and caring for more students than realistically manageable.

Prevalence of chronic illnesses are increasing in children. Chronic illness affects 26.6% of children in the United States (Van Cleave, Gortmaker, & Perrin, 2010). Statistics find that 215,000 people under 20 in the United States had a diagnosis of either type 1 or type 2 diabetes, the prevalence of food allergies among children under 18 is 5.1% with about 3 million children experiencing in total, 4.5 million or 11% of children have attention deficit hyperactivity disorder (ADHD), more than 300,000 or 4% school-aged children have epilepsy, and an average of 1 in 10 school-aged children have asthma with the total number of 9 million asthmatic children (American Academy of Pediatrics, 2016; Heuer & Williams, 2016; Institute for Safe Medication Practices, 2012; Terry, Patel, Cohen, Scherzer, & Kline, 2016).

ADHD is the most common neurobehavioral diagnosis and prevalent chronic health condition in children and many children with this condition require regular medications for daily functioning (Heuer & Williams, 2016). With many school nurses required to travel to multiple schools, there is opportunity for an interruption in care due to difficulty in administering medications at optimal dosage times, reducing the nurse's ability to monitor the child effectively for medication effectiveness and potential adverse effects. Additionally, seizures are the most common neurologic emergency in children that usually require a degree of professional intervention (Terry et al., 2016). In a study, school nurses felt confident they could identify a seizure, but were less confident that other school staff could do so and various school districts did not allow any other school staff other than a registered nurse to give a rescue medication (Terry et al., 2016). With this, it is important for trained personnel to be knowledgeable and nearby to intervene to provide the safest outcome for the children. As the number of students with chronic conditions grows, the need for readily available health care and trained personnel at schools

increases. With this high student ratio, workload, and increase in chronic illnesses, it is inevitable school nurses need assistance in their daily responsibilities, especially medication administration.

Medication administration is the most common nursing intervention carried out by school nurses and 5.6% of children receive medication at school during a typical day (Maughan et al., 2017). All schools need to have policies and plans in place for safe, effective, and efficient administration of medications at school. The American Academy of Pediatrics recommends having full-time licensed registered nurses executing this role in schools (American Academy of Pediatrics, 2009). Due to economic constraints, school budgeting, and nursing shortage, it is not fully feasible to staff a registered nurse at every school. When a licensed registered nurse is unavailable, the American Academy of Pediatrics does support appropriate delegation of nursing services in the school setting with medication administration (American Academy of Pediatrics, 2009).

The American Nurses Association defines delegation as “the transfer of responsibility for the performance of a task from one individual to another while retaining accountability for the outcome” (American Nurses Association, 2005). Delegation is a tool that may be used by the licensed registered school nurse to allow unlicensed assistive personnel to provide standardized, routine health services under the supervision of the nurse and on the basis of physician guidance and school nursing assessment of the unique needs of the individual child and the suitability of delegation of specific nursing tasks (American Academy of Pediatrics, 2009). The five specific components of delegation as defined by the American Nurses Association and the National Council of State Boards of Nursing are: right task, right circumstance, right person, right direction and communication, and right supervision (O'Neill, 2013). In schools, policies vary regarding delegation practices. In some locations, school principals delegate authority to administer medication (Kelly, McCarthy, & Mordhorst, 2003). Delegation necessitates consistency with state nurse practice acts, state regulations, and guidelines provided by professional nursing organizations. In a study in 2000, the majority of nurses (75.6%) delegated

medication administration to unlicensed assistive personnel (UAP), with secretaries (66.2%) being the most common person that the role is delegated to (McCarthy, Kelly, & Reed, 2000). With delegation comes additional responsibility on school nurses. It is ultimately the nurses' responsibility to evaluate the UAPs' competency in ability to administer medications to students. The nurses are liable for the safety and efficiency and are accountable for the delegation. In a study, more than 90% of schools had in-service education programs available for UAP, but only 80% observed medication administration for proper techniques, 63.9% tested understanding of the training by means of written or oral tests, and 4.6% of schools did not assess competency (Maughan et al., 2017). It is necessary if a UAP is needed, they have full understanding, knowledge, and competency of medication administration and the policies associated including what to do if issues arise.

Medication errors are an unfortunate occurrence in healthcare. They occur in schools just as in healthcare agencies. In a study, errors in administering medications were reported by approximately half of the school nurses surveyed, with missed dose the most common error, with identifiable contributing factors of the use of UAP and responsibility for large numbers of students (McCarthy et al., 2000). Serious health problems and medical emergencies may arise when nurses or UAPs administer medications incorrectly. The use of UAPs alone increased the rate of medication errors 3.1 times as compared to a nurse (O'Neill, 2013). Nurses who cover multiple schools were more likely to indicate occurrence of errors, which is a result of an under-resourced system because the nurse cannot be onsite to oversee medication administration (Maughan et al., 2017). Another factor influencing errors in this study was high rates of students participating in the free and reduced-price lunch program, which may be a proxy measure for poverty (Maughan et al., 2017). Poverty has been linked to poorer health and poorer health outcomes (CDC, 2013) and new evidence indicated that increased rates of ADHD and asthma in children are linked to poverty (Pulcini, Zima, Kelleher, & Houtrow., 2017). The results of these studies indicate proper nursing supervision and having a nurse on site are factors to aid in decreasing

medication errors. School nurses must advocate for proper policies and procedures to guard the safety of students. Schools play a vital role in maximizing adherence to medication regimes in children with chronic illnesses and aiding in recovery with students experiencing acute illnesses.

Medication errors may relate to moral dilemmas and moral distress in school nurses. Moral distress was first identified in 1984 by Jameton who defined it as: painful feelings and/or the psychologic disequilibrium that occurs when nurses are conscious of the morally appropriate action a situation requires but cannot carry out that action because of institutionalized obstacles that can include lack of time, supervisory reluctance, an inhibiting medical power structure, institution policy, or legal constraints (Jameton, 1984). This can significantly influence a person's profession and can be associated with stress, burnout, job satisfaction, and one's overall well-being.

There is limited literature about moral distress in school nurses. In a study, school nurses described their service as being "stretched," reported being overburdened with work and under resourced, and found it difficult to fit in all they were commissioned to do (Hoekstra, Young, Eley, Hawking, & McNulty, 2016). School nurses also identified many challenges they face such as lack of time, lack of capacity, technological barriers and financial barriers and reported that they could offer better services if they had more resources in terms of funding, materials, and human resources (Hoekstra et al., 2016). Some ethical challenges faced in school nursing include inadequate staffing that may contribute to the ineffective delivery of care, compromise staff and student wellness, and contribute to conflict and stress among school nursing professionals (American Nurses Association, 2017). School nurses may encounter ethical challenges when attempting to balance needs of the general school population with the needs of children with complex healthcare needs. There has been minimal research conducted specifically evaluating moral distress in school nurses. Moral distress may be applicable to school nurses because they are one of the few nursing specialties in which the primary focus of the work setting is not on health but education (Powell, Engelke, & Swanson, 2017). There is one study of moral distress in

school nurses (Powell et al., 2017). The majority of school nurses surveyed experienced some degree of moral distress and not being able to provide adequate care to students with chronic illness because of time constraints was the largest moral dilemma associated with moral distress (Powell et al., 2017).

The evidence found is moderate quality due to the limited research published specific to the topic of medication administration practices, moral dilemmas, and school nurses. However, applicable research and relevant literature related to the topic has been conducted and utilized to support this project.

Research Questions/Aims

The aim of this study is to investigate if there is a relationship between moral dilemmas experienced by school nurses and medication administration. A second aim is to assess whether there is a difference among work characteristics in school nurses that administer medications and those that delegate medication administration. Work characteristics including employer agency, total number of students, number of schools, and economic status of students will be considered. The following research questions will be examined:

1. Is there a relationship between school nurse medication administration practices and moral dilemmas experienced?
2. Does school nurse medication administration practices differ by work characteristics?

Methodology

Assessment

The study design is a secondary analysis. The initial study completed by my research mentor used a “descriptive, correlational quantitative design to examine the level of moral distress among school nurses and the relationship between moral distress and moral dilemmas experienced by school

nurses” (Powell et al., 2017). The study was approved by the East Carolina University and Medical Center Institutional Review Board (IRB) as an exempt study prior to any data collection. Access to the data and Statistical Package for the Social Sciences (SPSS) software was required. Additional knowledge needed included a basic understanding of SPSS and interpretation of statistical tests that was used to analyze data to answer the research questions. An additional resource of SPSS survival manual: A step by step guide to data analysis using IBM SPSS (6th ed.) (Palliant, 2016) was necessary to assist with this process in addition to guidance from my research mentor. All data analyzed was done with my research mentor and statistician.

Sample

The study employed a convenience sample of practicing school nurses in North Carolina during the 2015-2016 school year. The target sample included school nurses actively practicing who were employed by a variety of school nurse employers and had varied caseload assignments in an effort to represent the varied practices of school nurses in North Carolina. Specific inclusion criteria stated that participants must actively be practicing as a school nurse. School nurses that were working in an administrative capacity only were excluded from participation. The data collected was obtained by face-to-face surveys through attendance at several regional and district school nurse meetings in North Carolina. The total data from school nurse meetings provided in this study included eight meetings in total. Four were regional school nurse meetings and four were school district meetings.

Intervention

As previously stated, this is a secondary analysis of a quantitative survey administered to school nurses. The actual survey will be discussed in this section as the intervention. The survey asked the school nurses to identify their level of moral distress using the Moral distress thermometer (MDT) by Wocial & Weaver (2013), answer 14 questions to investigate moral dilemmas, and another 14 questions

to assess demographic and work characteristics. Common moral dilemmas were measured using a 14 item questionnaire on a 5 point scale from strongly agree to strongly disagree. Medication administration was measured by one question asking if the task was completed primarily by the school nurse or delegated.

Evaluation

After data collection, the survey data was entered in to the Statistical Package for the Social Sciences (Version 23). The data is stored by my research mentor and we have worked together to analyze the data required to answer the research questions. The survey responses selected as agree or strongly agree have been combined and categorized as agree while the responses selected as disagree or strongly disagree have been combined and categorized as disagree. In this analysis, we explored the relationship of survey questions 1-14 (moral dilemmas) with question 28 (medication administration). Survey questions 23-27 were used to examine the difference between employment characteristics of school nurses that primarily administer medications and those that delegate medication administration, question 28.

Results

The sample consisted of 302 school nurses. Of this sample, the majority of school nurses delegated medication administration 199 (66%) compared to 103 (34%) who primarily administered medications. School nurse medication administration differed by work characteristics including employer agency and number of schools in school nurse caseload. Of the nurses who regularly administered medications, 81 (79%) were employed by a local school system, 19 (18%) were employed by the public health department, 2 (2%) by a hospital agency, and 1 (1%) by another organization. In the total sample, there were 96 nurses who served one school and 73 (76%) of these regularly administered medications. When comparing the school nurses who delegated versus administering medications

themselves, there were no significant differences in the moral dilemma statements. There were 126 nurses who served 2 schools and 28 (22%) regularly administered medications. There were significant differences ($p < .05$) for three moral dilemmas within this group. School nurses, administering medications regularly, with two schools, were more likely to report concern that students with chronic illnesses did not receive the help needed to manage their illness and lack of time to address family requests for services. They were also less likely to report achieving health goals for students due to family situations.

See Appendix A.

Limitations

A limitation of this study is the sample, a convenience sample was used and may not necessarily represent school nurses as a whole. This survey was administered at regional and district school nurse meetings and may not be representative of school nurses unable to attend. Geographically, this study was done in one state and results may vary among state to state differences with differing nurse practice acts and school policies. Additionally, the size of the sample may have an effect on the results. A larger, more diverse sample size may result in differing data, representing a greater population of school nurses. Future research is needed to better understand and address any geographical differences and implement recommendations for practice per district, region, or state.

Conclusion

This study investigated the relationship between school nurse medication administration, moral dilemmas, and work characteristics. Medication administration practices of school nurses vary as some primarily administer medications while others delegate this task to school personnel. There may be an influence from employer expectations for whether school nurses administer medications or delegate the task as the majority of school nurses in this study who administer medications were employed by local

school systems. Findings support school nurses with two schools who primarily administer medications may have limited time for intervention with students who have chronic illness and to address family requests for services at school. They were also less likely to report achieving health goals for students due to family situations. Awareness of these common dilemmas experienced by school nurses that serve two schools and mainly administer medications, provide evidence for school nurse administrators and key stakeholders to implement policies to positively impact school nurse practice and ultimately the students in their care.

APPENDIX A

		Question 28: Who administers the majority of medications in your school(s)?					
		Nurse does (n=28)		Delegates (n=98)		χ^2	<i>p</i>
Question	Agreeance	n	%	n	%		
Q1- Not enough time to provide care to students with chronic illness.	Agree/ Strongly agree	15	53.6	62	63.3	3.567	.168
	Neutral	2	7.1	14	14.3		
	Disagree/ Strongly disagree	11	39.3	22	22.4		
Q2- Pressure from administration	Agree/ Strongly agree	15	55.6	39	39.8	5.040	.080
	Neutral	2	7.4	27	27.6		
	Disagree/ Strongly disagree	10	37.0	32	32.7		
Q3- Unable to provide care due to workload.	Agree/ Strongly agree	14	50.0	57	58.2	1.116	.572
	Neutral	5	17.9	19	19.4		
	Disagree/ Strongly disagree	9	32.1	22	22.4		

	disagree						
Q4- Unable to provide care due to lack of time.	Agree/ Strongly agree	12	42.9	46	46.9	4.142	.126
	Neutral	3	10.7	24	24.5		
	Disagree/ Strongly disagree	13	46.4	28	28.6		
Q5- Concern students with chronic illness do not receive needed care.	Agree/ Strongly agree	20	74.1	63	64.3	6.600	.037
	Neutral	0	0.0	19	19.4		
	Disagree/ Strongly disagree	7	25.9	16	16.3		
Q6- Unable to address family requests due to lack of time.	Agree/ Strongly agree	12	42.9	36	36.7	6.231	.044
	Neutral	2	7.1	29	29.6		
	Disagree/ Strongly disagree	14	50.0	33	33.7		
Q7- Unable to address staff requests due to lack of time.	Agree/ Strongly agree	10	35.7	38	39.2	1.864	.394
	Neutral	4	14.3	23	23.7		
	Disagree/ Strongly disagree	14	50.0	36	37.1		
Q8- Pressured to not interrupt class to provided needed care.	Agree/ Strongly agree	14	50.0	69	70.4	5.224	.073
	Neutral	2	7.1	8	8.2		
	Disagree/ Strongly disagree	12	42.9	21	21.4		

	disagree						
Q9- Unable to provide preventative care.	Agree/ Strongly agree	10	35.7	52	53.1	.866	.648
	Neutral	8	28.6	24	24.5		
	Disagree/ Strongly disagree	10	35.7	22	22.4		
Q10- Unable to provide care due to lack of school resources.	Agree/ Strongly agree	11	39.3	47	48.5	.866	.648
	Neutral	5	17.9	17	17.5		
	Disagree/ Strongly disagree	12	42.9	33	34.0		
Q11- Unable to provide care due to lack of referral services.	Agree/ Strongly agree	11	40.7	38	39.2	.218	.897
	Neutral	5	18.5	22	22.7		
	Disagree/ Strongly disagree	11	40.7	37	38.1		
Q12- Unable to provide case management due to workload.	Agree/ Strongly agree	16	57.1	64	66.0	1.057	.589
	Neutral	3	10.7	11	11.3		
	Disagree/ Strongly disagree	9	32.1	22	22.7		
Q13- Unable to achieve goals for student due to family situation.	Agree/ Strongly agree	22	78.6	81	82.7	8.544	.014
	Neutral	0	0.0	11	11.2		
	Disagree/ Strongly disagree	6	21.4	6	6.1		

disagree

Q14- Don't have a private space.

Agree/ Strongly
agree

9

32.1

31

31.6

1.236

.539

Neutral

1

3.6

10

10.2

Disagree/ Strongly
disagree

18

64.3

57

58.2

APPENDIX B

Who administers medications? Employer agency	1 school				2 schools				3+ schools			
	Nurse does		Delegates		Nurse does		Delegates		Nurse does		Delegates	
	n	%	n	%	n	%	n	%	n	%	n	%
Local School	57	79.2	15	20.8	22	33.8	43	66	2	4.8	40	95.2
Public Health Department	15	88.2	2	11.8	4	9.8	37	90.2	0	0	36	100
Hospital Agency	0	0	6	100	2	10	18	90	0	0	2	100
Other	1	100	0	0	-	-	-	-	-	-	-	-
Total	73	76	23	24	28	22.2	98	77.8	2	2.5	78	97.5

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