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The Impact of Prescription Medication Use and Misuse on Students in K-12 Schools

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THE IMPACT OF PRESCRIPTION MEDICATION USE AND MISUSE ON STUDENTS IN K-12 SCHOOLS

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Abstract

This paper will examine students and their use of prescription medications when administered to students at school. The law requires that schools follow policies in regards to the distribution of drugs in school. Guidelines have been created to lead doctors, school administration, and health staff in the distribution of drugs to students at school. The administration of drugs to students is the responsibility of school personnel. Furthermore, prevention messages about the misuse of medications is beneficial for students. It is imperative that America develops a better legal plan with ramifications to ensure students use the correct prescription medication. A more effective method to record reliable and valid data needs to be incorporated.

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CHAPTER I: INTRODUCTION

This paper will examine students and their use of prescription medications when administered to students at school. The literature review will seek to answer several questions: How do medications affect students' academic performance? When should school staff be informed of medical changes made by the student's doctor? How should the school monitor students to make sure they are using the medication that they are prescribed? Which school staff should have the permission and access to do so?

Legal Questions

With the growing number of students taking medication in the school setting, legal ramifications of administration of these medications can affect a myriad of school personnel. The administration and supervision of medication to students can be particularly dangerous for school personnel. Legally, school staff including but not limited to the school nurse, nurse assistant, counselors, psychologists, and social workers need to follow specific requirements of safe drug distribution. Mazur-Mosiewicz, Pierson, and McIntosh (2009) offered medication procedure guidelines needed for the safe drug distribution and supervision in school.

Federal Laws

To ensure that the administration and supervision of medication to students take place, laws were enacted. Schools must obey a couple of laws with regard to the administration and supervision of medication to students. Specifically, The Individuals with Disabilities Act and section 504 of the Rehabilitation Act of 1973 (Mazur-Mosiewicz et al, 2009) addressed the distribution and supervision of medication to students.

According to these laws, drug administration and supervision in schools is regarded as a related medical service and therefore required.

State Laws

State laws referring to medication administration by school personnel all differ and sometimes allow exclusions to the limitations of medication laws. However, where the administration and supervision of medication to students is allowed, it must be done with a school nurse. According to state legislation, the school nurse may permit school teachers, psychologists, etc. as long as they are present (Mazur-Mosiewicz, 2009). They contended that many states delegate superintendents in the approval of school personnel for the distribution of drugs/medications in schools.

District Policies

School district policies concerning the administration of medication not only depend on civil and state health laws, but need to obey state regulations as well (Mazur-Mosiewicz, 2009). This indicates variations in medication administration protocol across the country and at the state level. Mazur-Mosiewicz et al. (2009) stated, “School districts may reduce the risk of exposure to liability by requiring medications to be administered by or under the direction of a professional nurse” (p. 814).

Procedure Guidelines

Mazur-Mosiewicz et al. (2009) argued that the following issues are significant when drugs are distributed in school. Firstly, administration of any drug needs a written permission form signed by someone with parental rights and a doctor’s note that includes the name of the prescription, dose, time it needs to be taken, and the reason

the medication is needed. Secondly, all prescription drugs need to be delivered to the school by a responsible adult. Drugs should be in their original package. Thirdly, the storage of any drug must maintain the specific temperature required. The prescribed drug dosage should be confirmed with the Physician's Desk Reference to find out if it is in the usual daily amount. If not, the student's guardians should be told to check the dosage with the doctor. Another guideline states that school staff should measure, count, and document, the initial amount given to the school. If applicable, the counting process should be watched and signed-off by the parent. Any medication that is a controlled drug should be counted daily by the individual administering the drug, and at least weekly with a witness such as a nurse. All observations should be signed and documented by a person witnessing the count. Following that, the school nurse should review every drug order, confirm that the orders match, check the dosage, directions, and compatibility with other treatments for the students. After the review, the school nurse should write an individualized medication plan.

Mazur-Mosiewicz et al. (2009) continued by contending that when administering drugs, six steps should always be followed (the right student, the right medication, the right dosage, at the right time, at the right route, and by the right technique). Prescription drugs need to be stored in regulation with both state and federal laws and in secure and locked cabinets. Schools must always develop a plan for the retrieval of medication in emergency situations. Furthermore, controlled drugs have to be held in double-locked cabinets. The access to medication needs to be permitted only by the school nurse and trained staff. After that, keys to the storage need to be held away from

the general population, with only the nurse and trained personnel allowed access. Medication must never be left out before the student's arrival. Later, refreshment training should be required and documented for unlicensed staff allowed to administer to students. Training needs to include standards of safe administration, directions, and basic legal standards. School nurses should be provided with continuous direction and supervision of UAPs assigned to administer medication. Next, school policies need to support the nurse's decision in regards to the option to delegate administration of medication to UAPs for specific students. Their decision needs to be communicated to the student's family, doctor, and school. In addition, the school nurse's choice of UAPs is crucial for supervisory reasons regardless if the state law permits the principal or an administrator to delegate the procedure. Any documents that are related to drug administration must be completed immediately, including any errors. That being said, any errors in distribution of medication must be recorded on incident forms and reported to the parents, school nurse, and building administrator. Next, medications not collected by parents at the end of the trimester or school year should be destroyed according to state health, environmental safety or consumer protection agency requirements. A witness should be present as well. Finally, school policies for drug administration require that student confidentiality is protected. Since all information regarding health status is confidential, unlicensed staff distributing medication cannot talk about what they are doing with anyone except the delegating school nurse and the school principal.

Delegation of Administration

The delegation for administration of drugs means giving permission to someone for the distribution of prescription medication. Delegation decisions must include participation from the school personnel, medical professionals, family, and student. Delegates have the freedom to administer medication, but only according to the laws. Mazur-Mosiewicz et al. (2009) specified that medicines including injectable, intravenous, or rectal medications might only be permitted in life-or-death circumstances.

School Psychologist

School Psychologists evaluate both behaviors and emotions which guides what type of medication should be used, if any. Mazur-Mosiewicz et al. (2009) posited, "School psychologists are expected to play a critical role in medication management by monitoring behavioral, social–emotional, and academic outcomes; coordinating the intervention team; interfacing with the prescribing physician; and providing psychosocial interventions" (p. 817).

Noggle (2009) investigated research compiled over the past several decades in relation to prescription medication use among students. He summarized the main-points, but more importantly what to do as far as training or professional practice in "Future trends in the application and impact of psychopharmacology within the school setting". Noggle (2009) is conscious of the fact that the majority of school psychologists do not have the power to administer drugs to students at school. Nevertheless, he contended how significant it is for psychological professionals to still be educated in the

area. In Noggle's eyes, ownership of the role not only increases the frequency in which the medical field looks to psychological professionals for assistance, but for the more positive service they provide their clientele as well.

CHAPTER II: LITERATURE REVIEW

Literature Search Procedures

To locate the literature for this thesis, searches of Academic Search Premier, CLIC Search, and EBSCO MegaFILE were performed. Research from nearly the last 20 years was included in this literature review. This list was narrowed by reviewing only published empirical studies from peer-reviewed journals that focused on prescription medication in school, administration to students, legal implications, and the prevention of misuse found in journals that addressed the guiding questions. Research articles were chosen based on their relevance to this thesis. The key words that were used in these searches included “student nonmedical and medical use of prescription drugs,” “student self-medication,” “school medication policies and guidelines,” “school drug laws,” “school nurses,” “health promoting of medication,” and “school performance.” The structure of this chapter is to review the literature on prescription medication misuse in four sections in this order: Legal Questions; Guidelines for Administration; Staff Administration; and Prevention.

Legal Questions

Ryan, Katsiyannis, Losinski, Reid, and Ellis (2014) wanted to determine the states that have policies in regards to the distribution of drugs in school and any underlying factors. Psychotropic drugs are defined as agents prescribed to improve behavior, emotions, cognitive function, and sleep. The researchers describe the present state guidelines and make suggestions for schools, districts, and states who wish to create their own. The websites for all fifty states’ state education agency (SEA), state

legislature, and Google were searched to identify state policies concerning the use and distribution of medication in public schools. Each state's guidelines were evaluated to see if they provided instruction for administrative procedures, documentation, storage, training for unlicensed assistive personnel (UAP), self-administration of medications, monitoring, psychotropic medications, cannot recommend medications, and cannot require medications (Ryan et al., 2014; Zarrouq et al., 2016).

Ryan et al. (2014) discovered a variety of holes in several state medication policies. This included, "a lack of (a) comprehensive medication policies/ guidelines (a) required training for UAP administering medications to students, (b) monitoring procedures for potential side effects, and (c) policies that address the use of psychotropic medications" (p. 713). Results indicated that most states (48) use guidance for administering medication to students and slightly fewer (44) that needed documentation. Ryan et al. (2014) concluded that many of the states (42) designated safe storage for medication, but fewer (31) assisted in the training of drug distribution in schools for unauthorized staff. They suggest that in the future we examine if states quantify a system that schools should obey for current drug distribution guidelines. Furthermore, what should schools communicate with the student's doctor about the drug's impact at school (Ryan, 2014)?

Guidelines for Administration

Obviously, many students require medication during the school day. Taras et al. (2003) established guidelines to lead doctors, school administration, and health staff in the distribution of drugs to students at school. The policy statement includes over-the-

counter products, herbal medications, experimental drugs in clinical trials, emergency medications, and standards for student safety. Taras et al. (2003) only included school children as their subjects in the study. Guiding questions for the research aimed at school policy, parent-recommended short-term medications, emergency and urgent medications, security and storage of medication, and principles of student safety.

Parent-Recommended Short-Term Medications

School administrators need to establish if medication is improving student learning and then the outcome in the classroom. Consider the many parents who work, for example, and have to send their sick child to school. This reality illustrates the necessity of permitting the distribution of parent-recommended drugs to students at school only for that brief time (Taras et al., 2003).

Emergency and Urgent Medications

Emergency medications are not usually administered to students orally. Therefore, training for administration is often needed (Taras et al., 2003). Protocol often varies depending on the school district. In fact, some schools refuse to administer emergency medication and call 911 for an ambulance instead.

Urgent medications are distributed for abrupt fevers or pain such as cramps or headaches. Ibuprofen is one example of this drug. If the school allows, parent permission is still required in order for personnel to administer such medication to students (Taras et al., 2003).

Guidelines

For a healthy outcome, school districts must maintain policies in the administration of medication at school (Taras et al., 2003). They concluded their research with the following suggestions. To distribute any prescribed medication, make sure there is a written statement from either the parent or doctor that provides the name, dose, time it is to be taken, and diagnosis or reason the drug is needed. Administration of medications bought outside America is not free from requiring the written prescription of a US-licensed doctor. In addition, school policies must ensure that student confidentiality is protected, as stated in the Family Education Rights and Privacy Act and the Health Insurance Portability and Accountability Act. If trained medical staff are not available, someone like the school principal should administer medication to students. Regardless, any personnel distributing drugs needs to be educated about the method of administration. More importantly, describe how the medication will be administered to students during field-trips and other out-of-school activities. Furthermore, more mature students should be allowed to self-medicate at school only when permitted by the parent and doctor. Letters from parents acknowledging that the school holds no responsibility for ensuring the drug is taken must be required. Take away any medications if they are being shared with classmates and immediately remove the student's privilege of self-administration. Herbal and over-the-counter medications need to require a doctor's note that "prescribes" these nonprescription medications. The school should reserve the right to limit the duration that over-the-counter medications are distributed only from parent recommendation. It

is parents' responsibility to supply the school with current prescribed drugs, labeled containers, keep medications current, and help to supply and maintain any medical devices. Last, documentation needs to be established. Examples include logs or computer-based medical record systems. Any errors in drug distribution at school need to be reported to at least 1 supervisor so that patterns of mistakes and corrective action can be taken. This should be designed so that they do not discourage staff self-reporting of errors.

Security and Storage

Lawrence Diller (1998) spoke out on America's outbreak of attention deficit disorder (ADD) and its accomplice, the popular drug Ritalin. He discussed medical advances of the drug, as well as ways it is abused. Lawrence contends that in 1997 alone, almost five million people were prescribed Ritalin. Most of them were young students with ADD (Attention Deficit Disorder). The use of Ritalin has increased by 700 percent since 1990. Diller examined hundreds of students for ADD. Furthermore, his research focused on some of America's values and goals and the correlation with prescription medication. He argued about the significance of the security and storage of drugs that are dispensed at school.

Prescription drugs brought to school require a container suitably labeled by either a pharmacist or doctor and over-the-counter medications need to be in the authentic bottle. Schools have the choice of whether or not students are allowed to carry medication on them if security permits. This is highly unusual, but risky too since

enforcement for protection is rare. All in all, the research indicated a drug's availability really determines its success (Diller, 1998; Taras et al., 2003).

Funk et al. (2015) informed students, parents, pharmaceutical companies, and healthcare professionals about non-medical use of prescription medication. Why do students have a non-medical use for prescription medication? What are the common factors and risks involved with non-medical use of prescription medications? 25 middle school students completed detailed interviews about their drug experiences. Interviews were recorded, transcribed, and downloaded for analysis. One out of three students indicated using prescription medication for non-medical purposes in their lives. In addition, Funk et al. (2015) reported students whose parents let them take their drugs at school without being monitored by personnel. School staff were not overloaded, yet students were capable of sharing their medication with peers. This often occurred in school bathrooms or somewhere else on school property.

Finley (2007) studied the differences in the techniques schools use to treat students use of marijuana compared to that of ADD/ADHD drugs. Finley (2007) stated that prescription drugs can be beneficial, however, is that the message we should be sending to students? The research showed a decrease in student marijuana use, but a huge increase in prescription drugs. Approximately 1 out of every 4 boys in American schools uses methylphenidate, or Ritalin. The study explored similarities between marijuana use and ADD/ADHD medications that included student ease of access, reasons for use, attitudes about the drugs' effects, and America's drug culture. The differences consisted of the actual effects of the drugs, education about the drugs, and

punishments for unlawful use in school. The research summarized that schools promoting certain drugs confuses students and is disastrous to their mental and physical health.

Finley investigated a law that made it a crime for students who distributed medication or possessed a drug on school property without a proper prescription (as cited in Wiese, 2005). Kansas City passed the law preventing students from sharing prescription medication except for those with staff permission. Finley (2007) came to the conclusion that this is pointless to drug prevention since certain permitted students will have the freedom to distribute medication with peers anyway.

Boyd et al. (2006) explored the nonmedical use of prescription pain drugs from a sample of students in Detroit. With a response rate of 87%, 1,017 students, between the ages of 10 and 18 years old, completed a survey. The results indicated 22% of girls and 10% of boys who indicated nonmedical use of prescription drugs. This had great implications in terms of the prevention of prescription drug misuse. Family and friends were the two leading sources. Therefore, they need to be taught about providing information regarding the abuse of medication to students. Too often, students do not have any information in regards to the negative impact of prescription drugs. Students, parents, and schools all need to comprehend the significance of prescription drug misuse in both the home and school (Boyd et al., 2006).

ALBashtawy et al. (2015) assessed the self-medication of students. ALBashtawy et al. (2015) had three questions. What are the prevalence rates of self-medication in students? What are the sources of information in regards to self-medication in

students? Finally, what causes the lead to self-medication in students? The study consisted of 602 students between 7th and 12th grade. All were invited with a consent letter provided to their families. It included a description of the study and a copy of the questionnaire. The return of a signed consent letter demonstrated acceptance for the students to take part in the study and fill out the questionnaire in class. Results indicated that the prevalence of self-medication in students is extremely high and even increases in age. They argue how consequential school programs containing the safe use of medication are to students and their families.

Ryan et al. (2015) introduced a checklist for the administration of psychotropic medications. The research had two purposes. First, Ryan et al. (2015) gave educators an overview of the various types of psychotropic medications. Second, it provided suggestions for the safest way to take care of these drugs. The study examined the need for the cooperation between parents, doctors, and schools in order to ensure the benefits of prescription medications. Although 48 of 50 state educational administrations have school medication policies in place, only 11 addressed the use of psychotropic medications. In summary, Ryan et al. (2015) concluded that psychotropic medications in school will continue to be an issue as a result of side effects, off-label medications, and lack of medical knowledge.

Ryan et al. (2015) provided steps for the dispensing and storage of drugs in school. First, roles and responsibilities of adults involved in administration, like parents or nurses, should be clearly defined. Next, the drugs should be brought to school in the original container by a guardian with the instructions as well. Prescription drugs should

be stored in a locked cabinet. Fourth, the school nurse should go over medication orders so the dosages are appropriate for the students. Medications should also be distributed at the times stated. Furthermore, procedures need to be ready for the event of an emergency. The staff administering medication should keep a log of all the drugs they have dispensed. Afterward, we need to make sure there is a routine for notifying parents when students' prescription medications are low or out. There should also be a list of safety measures to take while distributing drugs as well as off-site administration procedures such as a fieldtrip. Finally, plans for student refusal of medication must be established.

Staff Administration

The administration of drugs to students in school is the responsibility for school staff. However, which school personnel has the most authority? This depends from school to school and district to district. Nevertheless, administration, nurses, or secretaries are required in this process.

Nurse Availability

Price et al. (2003) discussed decreasing school budgets and the impact it has on nurses administrating drugs to students. Nurses will not always be available, therefore, school personnel, such as secretaries, are empowered with the responsibility of medical administration. The study was established for elementary school secretaries in concern to their understanding of drug distribution. In the 385 surveys that were returned, 69% of the secretaries responded that they administered drugs to students (Price et al., 2003).

Finley (2007) addressed a study, published in *Health and Healthcare in Schools*, that was responded to by over 300 school nurses in regards to medication distribution (as cited in 'Study Finds,' 2001). All of the nurses indicated that significant mistakes were made administering drugs at school. The most common error was unlicensed staff distribution. Only 25% of the school nurses passed out medications. Most schools had to rely on paraprofessionals, teachers, parents, and even students.

According to Price et al. (2003), nearly one out of every four secretaries had never even been trained on the distribution of medication to students at school. As a result, the authors made four suggestions. First, school districts must have an appropriate number of nurses. They also need to review the policies they have put in place for the administration of medication. Next, nurses have to completely comprehend that they are liable when authorizing nonmedical school staff. Finally, "School secretaries and other nonmedical school personnel should advocate for adequate training before they administer any student medication" (p. 378).

Communicating Misuse

One research article examined a new program aimed at teaching students about the risks of medications and the benefits compared to the disadvantages when they are misused. The program was designed to help school nurses in teaching staff, students, and parents about prescription drug abuse. It has been exhibited at a variety of school settings, but the hope is to widen its practice. The data was collected from the National Survey on Drug Use and Health (NSDUH) from 2004 to 2006 and included the responses from 67,706 students aged 12 to 17. Roughly half of the 8.5% of American students

blamed medication abuse because of depression caused at home, work, or school (Prescription, 2008).

As an answer to prescription drug abuse, the National Association of School Nurses (NASN) designed a toolkit for nurses. It is constructed to help nurses and other school personnel in teaching students the management, identification, and prevention of medication misuse. This included videos, lesson plans, and handouts (Prescription, 2008).

Prevention

Now seen as a serious health issue, prevention messages for the misuse of prescription medications in school can have the utmost consequence. Twombly et al. (2011) explored prescription message prevention and the implications in their research of both seventh and eighth grade students in the Atlanta area. Responses suggested that messages with refusal techniques and positive alternatives had a mild effect, but scare tactics in reference to prescription misuse were especially evocative to students (Twombly et al., 2011). They concluded there were four findings from their study. Again, messages that frightened students had the greatest impact. Information that suggested refusal skills only had a little effect. Affirmative substitutes were likewise. The fourth finding from the data indicated students are still uncertain and on the fence on the subject of prescription medication misuse.

From the research, Twombly et al. (2011) made a couple of suggestions. First, the message styles supported by current research may in reality, be quite useless when

considering prescription drugs. Accordingly, we need to revisit each message's characteristics and evaluate if it has the strength to control medication abuse.

Moreover, the study's data implicated that the majority of seventh and eighth graders belittled the messages. A variety of information should be taught so that all students feel connected. Twombly et al. (2011) concluded that creating different messages by age or grade can raise the cost of prevention efforts. However, the study suggested that the most effective prevention techniques for medication misuse may require a multi-message approach.

Fotiou et al. (2014) explored the widespread and connection of non-prescription medication. They used cross-sectional data from unknown questionnaires given to a nonspecific sample of 676 schools with 23,279 students aged 15-19. It found that roughly 16.2% of students reported lifetime misuse and 6.3% repeated misuse at least three times. Almost all of the cases were to alleviate pain. Fotiou et al. (2014) concluded that their study has consequential implications for both prevention and health policy. They argued that interventions should focus on notifying students about the health hazards from medication misuse. Furthermore, the study indicated that peer use was a consequential factor. Educators need to fund the development of students' life skills for and from peer influence.

Spoth et al. (2013) examined long-term medication misuse results in three random trials that were controlled to look at worldwide preventive interventions taken during middle-school. During interventions, a few items need to be considered. This included interventions that demonstrate common risk and protective factors, crossover

effects on multiple outcomes, and positive effects among higher-risk students. Spoth et al. (2013) randomly chose schools from communities with less than 8,500 people and with more than 15% of the students eligible for free or reduced-cost lunch programs in Iowa. Participating seventh graders were from 24 schools in districts with less than 1,200 students, 20% of which were eligible for the lunch program. Two succeeding cohorts of sixth graders from 28 school districts, in size from 1,300 to 5,200 students and with at least 15% eligible for lunch programs, were recruited as well. The study indicated the benefits that brief, cost-effective interventions have on decreasing the drug misuse amongst students. More importantly, Spoth et al. (2013) discovered that both higher-risk and lower-risk students have comparable outcomes in regards to these prescription drug interventions.

School Connectedness

As mentioned previously, students value messages that connect with them. A Canadian analysis narrowed in on the relationship between school connectedness and medication abuse. The statistics were collected from 44, 344 students in grades 7-12 across Canada. Currie and Wild (2012) determined school connectedness with a Likert-type scale. It included I feel close to people at school, I feel part of this school, I feel happy to be at school, I feel the teachers at my school treat me fairly, and II feel safe at school (Currie & Wild, 2012, p.747).

Currie and Wild's (2012) results called attention to school connectedness and indicate how critical of a role it plays on the misuse of prescription drugs. Moreover, it implicated the benefits of educating both students and parents about the dangers. This

includes information that does not pertain to just school, but at home as well. Besides the disposal and safe storage of medication, parents must also be informed about children abusing prescribed medication in their homes (Currie & Wild, 2012).

Health-Promoting School Programs

In Taiwan, a study was generated to evaluate how effective their Health Promoting School (HPS) program was at teaching students the proper prescription use. The participants included 3,763 students in 45 intervention schools and 3,738 students in 98 comparison schools. A questionnaire was created that assessed student knowledge in three ways (Hsueh-Yun, 2014).

First was the student's ability to discuss personal matters with a physician. For instance, can students answer questions about any personal drug allergies? The second part of the study dealt with understanding information displayed on medication labels. Finally, Hsueh-Yun et al. (2014) evaluated if students knew how to obtain medication through a questionnaire. It asked students if it was okay to buy or get medication nine different ways. This included family or friends' recommendations, TV advertisements, radio advertisements, through internet sales, from parks or temple street vendor sales, traditional market sales, tour bus or rest area street vendor sales, overseas suppliers, and therapists' recommendations (Hsueh-Yun et al., 2014, p. 273).

The results of the study indicated that the HPS program was beneficial at teaching students the safe medication use. More importantly, we need to adopt similar programs in America and teach drug administration regularly. In doing so, both students and parents will broaden their skills in proper medication use.

Education Prevention

In a study that covered law enforcement that urged community members to empty their homes of useless and expired medications, Baldillez (2012) alleged that the U.S. Centers for Disease Control and Prevention classified prescription drug abuse as an epidemic. Therefore, the research article stressed the significance of patient and family education in the basis for prevention of prescription drug misuse. The study included five locations in New Mexico where residents could dispose unused and dated prescription medications. Behind marijuana, prescription medication has become the second-most drug consumed by teenagers so they can abuse them. Kids are not only swallowing them, but injecting and smoking prescription medication too. According to the author, “Parents should also be aware that suppliers of these drugs might not be the menacing characters on the street corner, but are more likely close friends or relatives” (p. 1).

One study recommended steps parents or guardians can complete to prevent prescription drug abuse in their homes. Baldillez (2012) reiterated the significance of doctors educating both students and parents about the rationale, interactions, chemicals, side-effects, treatment, duration, symptoms, dosage, directions, and diagnoses of prescription medications also. Furthermore, addiction should be discussed. Again, the danger of prescribed drugs needs to be essential in today’s American schools.

Efficiency of Prevention Programs

Clearly, there is an abuse of prescription medication, however, in most schools this is not the focus of their anti-drug campaign. Laura Finley (2007) inspected the

differences in how public schools tolerate marijuana use and ADD/ADHD drugs. She settled that schools are sending the wrong message to students by telling them some drugs are okay. Not only can this damage students' mental and physical health, it also weakens educators' power to teach with an impact. School districts redundantly preach the monstrosity of illegal drugs, but handout prescription meds regularly (Finley, 2007).

Methylphenidate, dextroamphetamine, and mixed-salts amphetamine are considered the best treatment for ADHD (McCabe et al., 2004). "The Use, Misuse and Diversion of Prescription Stimulants Among Middle and High School Students" studied the prevalence and the factors associated with the use, misuse, and diversion of stimulant medication for attention-deficit hyperactivity disorder (ADHD) in a sample of middle and high school students. This investigation was conducted during a 1-week period with 1,723 middle and high school students from a public-school district in Detroit. The results indicated that 4.5% of the students misused prescription drugs. Out of these students, 23.3% reported being asked to sell, give, or trade their medications. McCabe, Teter, and Boyd (2004) concluded that community-centered techniques are vital in reducing the misuse of stimulant medications among middle and high school students.

Finley (2007) issued a warning after investigating Attention Deficit Disorder (ADD) and its normal treatment, Ritalin. Parents are hurting students by treating symptoms and not causes with an insufficient medication. One psychologist stated, "There is something odd, if not downright ironic, about the picture of millions of American school children filing out of "drug awareness" classes to line up in the school

nurses' office for their midday dose of amphetamine" (as cited in DeGrandpre, 1999, p. 180). Students lose trust in both educators and the social environment when this realization sinks into their head (Finley, 2007).

Home Safety

As mentioned earlier, Baldillez's (2012) study made recommendations that include three steps parents should follow to assist in securing their homes from prescription drug misuse. The first step was monitor. An inventory of prescription medications in the home can help parents know what they have and what they do not need anymore. Next, is to secure. Prescription drugs should not be readily accessible to everyone in the house. Parents should treat prescription medicines the same way they treat other valuables in their homes. The final step is to dispose. Leftover or expired prescription medications should be disposed of properly. Pills should be placed in a non-see-through container with something unpleasant mixed in, like old coffee grounds or kitty litter. The container should be sealed and put in the trash.

America continues to spend billions of dollars fighting illegal drugs such as heroin, cocaine, morphine, opium, and marijuana as well. Baldillez (2012) believed that the fight against illegal drugs is stagnant. The funds used in this battle should be allocated for a new war. He asserted that the government should be funding education on the war against medicine cabinets at home.

Safe Disposal

Taras, Haste, Berry, Tran, and Singh (2014) determined if a model drug disposal program was practical and evaluated school nurses' awareness of environmentally

responsible medication disposal. Unclaimed medications were collected from an urban school district at the end of the school year to determine the nature and extent of the issue. Taras et al. (2014) stated that nurses documented unclaimed medications and brought them to a central location. An environmentally safe drug disposal program, which included sealed containers bound for a local hospital's disposal system, were used.

Out of roughly 133,000 students, there were 926 different medications left at the end of the year. Nurses followed the new protocol. Information collected from nurses indicated an acceptance of the program. Disposal of unclaimed drugs, use of secured containers, and transportation to a hospital for environmentally responsible disposal proved to be practical and acceptable to the school personnel. Unclaimed drugs at school each year can create an environmental risk when disposed of improperly. It is reasonable to execute an environmentally safe drug disposal program at schools. (Taras et al., 2014).

Access

As no surprise, one way to get prescription medication is to have a doctor prescribe them to you. Even so, students can obtain the same drugs without a prescription by buying them from a friend or stealing them from a family member (Finley, 2007).

Funk et al. (2015) described an interview where students were selling both theirs and their parents prescription drugs. Sometimes, they even bought them from older peers that were in high-school.

Adults that become involved are even more worrying (Finley, 2007). In one case in Nashville, Tennessee, a drug-addicted middle-school teacher was convicted of stealing the schools' stock of student Ritalin. She was the second teacher from that school caught stealing from the vault (as cited in DeGrandpre, 1999).

Physical Damage

The U.S. Department of Health and Human Services claims medication overdose is becoming more regular for teenage students. Over 13,000 emergency room visits are caused by prescription drug misuse. In addition, several of these medications can cause possible side-effects that result in disability or death. In the study conducted by Baldillez (2012), a connection between prescription drugs and suicide existed.

Cultural Impact

Most students who misuse prescription drugs do not see it as unethical or immoral. In another research article, students looked at prescription medication like the caffeine in soda or Red Bull. Finley wrote that one Minnesotan researcher protested, "Pills are more seductive to kids because they see them as cleaner, safer and less illegal" (as cited in Birhanemaskel, 2005).

Van der Schans et al. (2016) analyzed school performance from students using antipsychotic drugs at the end of their primary education. Van der Schans, Vardar, Cicek, Bos, Hoekstra, de Vries, and Hak (2016). Their study included 7,994 students born between 1996-2001. The mean of academic achievement scores and standard deviations were taken from students on antipsychotic drugs and then compared. More

importantly, van der Schans et al. (2016) concluded that students on antipsychotic medication had lower school performance compared to classmates not prescribed drugs at the end of primary school.

In another study, van der Schans et al. (2017) argued that there is no conclusive evidence that prescription medication even benefits student school performance. The study evaluated the differences in school performance from students using methylphenidate at the end of primary school. The research included 22,063 students born between 1996 and 2001. The study associated students from a pharmacy prescription database with standardized achievement test results at the end of primary school. Van der Schans et al. (2017) concluded that methylphenidate users have a lower school performance compared to students who have no history of ADHD drugs.

Liakoni et al. (2015) dug into the prevalence of cognitive enhancement from prescription drugs use of Swiss students since it is unknown. Therefore, they conducted a survey with 55 schools in the Canton of Zurich to provide estimates of drug use for cognitive enhancement in students. They also examined if performance pressure, stress, and psychiatric disorders were connected with student medication use for cognitive enhancement. 13.3% of 1,139 students indicated they used prescription drugs for cognitive enhancement to better their enhancement in school.

Attention Deficit Hyperactivity Disorder (ADHD) medications, like Ritalin, are usually prescribed to students who are not performing adequately in school. Parents even motivate their children to try medications so that their grades will improve. American culture sells parents with maintaining adequate grades, competition, and

college admittance. Teachers expect students to listen and behave in their classrooms. Finley (2007) questions if educators are to blame.

According to Finley (2007), textbooks used in school curriculum to expand strategies for preventing the misuse of medication did not even include prescription drugs (as cited in Weller, 2005). In Finley's (2007) eyes, school districts are too busy spending their funds on tests or strip searches on students accused of carrying illegal drugs. Professionals are collaborating to create tests for prescription drugs now also. Finley (2007) concluded his study by comparing the punishment of different drugs. Consequences for prescription misuse seem like a nothing in contrast with illegal drugs like marijuana. In one case, Finley discussed that Dallas students who sold and used Ritalin were only given a three-day suspension and required to go to summer school (as cited in DeGrandpre, 1999). This is a tough-pill to swallow for students that face expulsion due to zero-tolerance policies on illegal drugs (Finley, 2007).

Finley (2007) believed America is a drug culture where we medicate ourselves for almost everything. Parents have even begun to discuss drugs less with their children. This is not too difficult to grasp when the production and use of prescription drugs in the country is considered. Take Ritalin for example, according to Diller (1998), America produces and uses approximately 90% of the Ritalin sold in the world.

CHAPTER III: DISCUSSION AND SUMMARY

Summary of Literature

Legal Questions

Both Ryan et al. (2014) and Zarroug et al. (2016) examined psychoactive medications. More importantly, the legal requirements for medication distribution were securitized. The research from both articles suggested the enforcement of guidelines and policies for safe and legal drug administration as well as substance prevention programs (Ryan et al., 2014; Zarrouq et al., 2016).

Guidelines for Administration

Taras et al. (2003) provided a policy designed to guide doctors, school administrators, and nurses in the distribution of prescription medication in their study. Furthermore, the research indicated a drugs availability to the subject ultimately determines its success (Diller, 1998; Taras et al., 2003).

Funk et al. (2015) expanded their studies towards student misuse of prescription medication. Both authors assert the significance of security and storage of prescription medication (Funk et al., 2015, Boyd et al., 2006).

ALBashtawy et al. (2015) assessed the misuse of prescription drugs as well. The study showed how common it is for students to misuse medication. The authors also found that misuse is not only extremely high, but it increases with age. The researchers argued the significance and efficacy of health education programs that address the safe us of prescription drugs and aim at students and their families. Ryan et al. (2015) made

recommendations for such campaigns and how they can be the most effective for students and education programs (AlBashtawy et al., 2015, Ryan et al., 2015).

Moreover, research has shown administration guidelines need to require equal perspectives. Finley (2007) explored the differences in the ways public schools treat students use of marijuana and ADD/ADHD drugs. She concluded that schools send mixed messages to students when they promote one type of drug and discourage another. This could result in damaging students' health, their willingness to discuss drug use or misuse and have other psychological effects that are not know. Furthermore, this inequity could sabotage educators' effectiveness in dealing with this continuing pervasive issue.

Staff Administration

A few of the research articles that met criteria focused on the staff distribution of drugs to students, with a focus on school secretaries and nurses. Their experiences and perceptions with student medication was analyzed. Programs have been designed to help staff educate students, families, and teachers about the prevention of prescription drug abuse. More importantly, programs like this for secretaries and nurses need expand further throughout America (Price et al., 2003, Prescription, 2008).

Prevention

Several studies investigated the prevention messages that were provided for student prescription drug abuse. Findings suggested a need for a variety of messages in order to prevent numerous student audiences. These studies indicated that multi-platform and modalities would be effective for a wider range of students. The results

indicated that concise messages communicated at schools worldwide, decreases student misuse of medications (Twombly et al., 2011, Fotiou et al., 2014, Spoth et al., 2013).

Baldillez (2012) argued that patient and family education is the basis for the prevention of student medication abuse also. He asserted the necessity that it be an integral part of education. Furthermore, studies have indicated programs that have significantly increased student' knowledge and abilities concerning correct drug use. School connectedness is just as important of a preventive factor (Baldillez, 2012, Hsueh-Yun, 2014, Currie & Wild, 2012, p.747).

McCabe et al. (2004) studied the medical and nonmedical use of prescription drugs amongst US. high school students. The authors suggested that any medication drugs prescribed to students be monitored, stored, and disposed to reduce abuse. Disposal programs especially, need to practical and environmentally responsible (McCabe et al., 2004, Taras et al., 2014).

Finally, certain research articles studied the cultural impact on students in regards to prescription medication. Van der Schans et al. (2016) analyzed school performance from students prescribed to drugs. Results indicated that there is no conclusive evidence that medication has beneficial effects on students' school performance. Nevertheless, pressure and stress continue to influence American students' decision to misuse medication for cognitive enhancement (Van der Schans et al., 2016, Van der Schans et al., 2017, Liakoni et al., 2015).

Limitations of the Research

When reviewing available research, limitations were noted in the area of applicable and reasonable time frames of studies, due to the relative "newness" of this growing issue. Research available included small sample size and was limited to only schools and school districts that were willing to participate. In regards to the population that was included in the research, participants did not reflect a wide range of backgrounds including but not limited to: race, ethnicity, religion, age, socio- economics, location, sexual orientation, gender expression, disability area etc.

For this project, research parameters were limited to prescription medication in school, administration to students, legal implications, and the prevention of misuse found in journals that addressed the guiding questions. There were limited research articles regarding medications effect on student success. Some resources with information about communication between doctors and school staff were found. However, if a doctor chooses to take a student off medication they do not need to report it to school personal, like the nurse, case manager, or administration. Unfortunately, there was little to no studies in which examined drug-testing at schools for monitoring the proper medication use of students.

Limitations to several studies related to varying ages and grades of students that participated. For example, some students, especially those that were younger, may have not even understood the questions they were answering. They could have given false responses as well. Furthermore, studies with self-reported questionnaires may not

have reflected students' true habits, sources, and factors. Students often fear revealing information, particularly when it is related to drugs.

Another significant limitation regarded prescription medication state guidelines for schools. Research demonstrated that there is poor compliance to these policies because they are not required. Today, most schools view this as one less issue to deal with.

Implications for Future Research

There are several gaps in the research that need to be filled. Therefore, I have proposed suggestions for where researchers need to focus additional energy. To begin with, we need to analyze the sample population of students used in multiple studies. A lot of research was only conducted from one school district so generalizations to other populations were limited. Nearly all of the studies used a small sample size of students as well. Both, the number of school districts and number of students, need to significantly increase for effective results in the future

A number of studies were so confined so the results only pertained to that area or location. Research cannot be limited to just a rural or urban setting. I recommend the replications of studies on additional populations and locations.

We will must consider the varying ages and grades of all the students included in the majority of these studies. Some of the students were more than likely too young to understand or give actual answers. More importantly, most of this research was the first of its kind to ever be performed on students with the aim of investigating prescription

medication use. Consequently, there is no evidence of long-term research examining student performance.

Furthermore, self-reported questionnaires used in studies may have lacked appeal to students. This resulted in the underreporting of drug use so data would not reflect the actual prevalence then. Moreover, would students lie? Students almost always fear revealing truthful information in regards to any type of drug.

A few studies were denied student participation by school administrations. Again, state guidelines and policies are not required. Public schools should not even have a choice to deny research, but this cannot happen until states and the government strictly enforce school medication regulations. Finally, several school nurses never even responded to specific studies. Did they not have the appropriate records? If true, this suggests huge liability issues at that school.

Implications for Professional Application

We have discussed medication administration for students that have a 504 plan, or an IEP, so therefore, they have a school health plan. However, what about the students that are on medications, but do not receive services. Doctors are not required to communicate with the schools of their patients unless they need to take it at school. Nevertheless, cases like such can still impact the student at school. For educators, it would be helpful to have knowledge about every student on medication relevant to their learning.

Prescription medications for students needs to be communicated between all staff relative in the student's education. This includes school administration, nurses,

teachers, paras, counselors, therapists, social workers, and even secretaries. The effects of students' medications may affect their behavior and their academic abilities throughout the school day. Thus, situations like this must be monitored by all relevant staff. School personal can provide interventions in situations arise. In addition, staff can share beneficial observations and strategies. Furthermore, staff need to keep their relationships professional and confidential when dealing with students and prescription drugs.

Communication between parents and school personal like case managers for example, is also critical. Several students have documentation regarding medication, but do not take it at school. What about when student's guardians take their child off a prescription drug or run out of it? Too often, parents or guardians do not communicate this with teachers or school staff. Then, educators are bewildered by a rise or decrease in specific behaviors or academic performance. From personal experience, I have witnessed parents correlating with doctors to purposely keep school staff in the distance about changes in medications. Guardians then report any unexpected or sudden behavioral data to the doctor if needed. As a consequence, educators suffer when unprepared and blind.

Conclusion

This paper examined students and their use of prescription medications. The literary review sought to answer several questions. America's laws require the safe distribution of medication to students in school. Several policies and guidelines have been implemented to ensure this. One regulation permits that specific school personnel

administer prescription drugs to students. We need to continue to develop our prevention messages to drugs in school as well. Today, it is imperative that America develops a legal plan with ramifications to ensure students use the correct prescription medication. A more effective method to record reliable and valid data needs to be incorporated. Both future students' academic success and mental health depend on it.

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