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ELEMENTARY SCHOOL TEACHERS' STUDENT HEALTH CONCERNS AND
KNOWLEDGE OF RESOURCES

An honors research project submitted in partial
fulfillment of the requirements of the degree of
Bachelor of Science of Nursing

By

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Abstract

Teachers are with their students an average of seven to 10 hours a day, five days a week. The substantial amount of time teachers spend with their students allows them to provide helpful insight into health problems children face. The purpose of this study was to identify elementary school teachers' concerns for student health and to assess their knowledge of resources that address those health concerns. A convenient sample of 86 teachers from three elementary schools in Northwest Arkansas was surveyed. Surveys were used to identify the three main concerns teachers have for their students. A cross-sectional design was used with descriptive statistics to identify the top three health concerns. The top three concerns identified were hygiene, mental health, and nutrition. It is hoped that this research will assist schools in determining the necessary resources needed for elementary school children to have successful and healthful lives.

Introduction

Chronic illness is on the rise and mental health is becoming a widely talked about topic due to the number of children with anxiety, depression, and suicidal thoughts. Additionally, obesity in children is at an all time high. Children spend the majority of their time at home and at school, therefore parents and teachers are key resources to children with health issues. There is a plethora of data that shows healthier students perform better in school (Baisch, 2011). Baisch states that healthy students have better attendance and are able to better concentrate during school (2011). The purpose of this research was to identify elementary school teachers' student health concerns and their knowledge of resources regarding those health concerns.

Teachers from three different Northwest Arkansas elementary schools completed a survey that identified the health concerns teachers have and assessed the teacher knowledge of resources available. Demographic data was collected to describe the participants that included gender, ethnicity, and years of teaching. After the data was collected, the health concerns were ranked to give insight into the health problems teachers see as a priority and the needs related to those health problems that have yet to be met. School nurses and administrators will be better informed concerning the information teachers have about resources and if those resources match the major concerns teachers have concerning a healthy student and classroom.

Background and Significance

In the United States, 85% of children meet excellent health standards, meaning 15% of children have some type of health ailment (National Survey of Children's Health [NSCH], 2012.). The percentage is even higher in Arkansas with only 80 percent of children in good health (NSCH, 2012). If these health disparities are not addressed at an early age, it is likely these ailments will persist until adulthood which can lead to hardships in the work place and at

home. According to Boman (2016), early intervention gives children a better chance to receive treatment before negative behaviors become permanent. Teachers play an important role in a child's life because of the amount of time a child spends at school. It is crucial for teachers to work together as a team to set education and health goals in order to help their students. Some schools offer resources to help children with health problems, but if the teachers do not have adequate knowledge of these resources, they serve little purpose. Teachers have the opportunity to be at the forefront of confronting these illnesses and should encourage healthy lifestyles. Studies have even shown that healthy students have higher class attendance and are more focused on schoolwork (Baisch, 2011). Steps taken today to prevent and treat these illnesses can better their current and future health (El Achhab, 2016).

Teachers have one of the most influential roles on a child's life second to their parents or guardian. Students spend from seven to 10 hours per day in the school setting and are at school for approximately 180 days out of the school year (Nadeau, 2015). The amount of time spent with students gives teachers a great deal of insight into student's health. The top three health concerns found in the literature for elementary aged children are: chronic illness, mental illness, and obesity ("Arkansas Department of Health", n.d.; Harrington, 2015; Odum, 2013). The following paragraphs will focus on these three concerns and dive deeper into their significance.

Chronic Illness

Chronic illness is becoming an increasingly common finding in young children. It is believed that by the time a child reaches adulthood at the age of 18, 10% of all children will have a chronic illness diagnosis (Mayes, 2011). In Arkansas alone, 70% of the leading causes of death are related to chronic illness ("Arkansas Department of Health", n.d.). Teachers should have knowledge of the available resources to better assist their students and address the impact

chronic illness can have on student grades. One of the key reasons for these less than satisfactory grades are due to a lack of school accommodations for these students (Mayes, 2011).

Before diving into the depths of chronic illness, it is important first to understand what it means to have a chronic illness. A chronic illness is a disease that lasts for an extended period of time and includes common illnesses such as asthma and sickle cell anemia (Mayes, 2011; Nadeau, 2015). According to Nadeau (2015), one in 11 children have asthma. Asthma is becoming such an issue that Healthy People 2020 made it one of their goals to reduce the number of students who report missing school due to asthma (Nadeau, 2015).

Another chronic illness that is having an impact on students and their school success is Sickle Cell Disease (SCD). Sickle cell disease primarily affects African Americans. However, studies have shown that 1 in 500 African Americans who are born in the United States inherit SCD (Mayes, 2011). This disease can lead to other medical issues such as hemolytic anemia, microvascular infarcts, and problems with the eye (Mayes, 2011).

Mental Illness

Mental illness used to be a taboo subject but is becoming more acceptable to talk about openly. It is important to identify mental health issues early on in order to intervene before it creates more problems (Boman, 2016). According to Harrington (2015), an average of six students per classroom will be diagnosed with a mental illness. One in five children will be diagnosed with a crippling mental disorder at some point in their life (NIMH: Any Disorder Among Children, n.d.). In Arkansas, 12.5 percent of the population reports experiencing recurrent mental stressors (Caldwell, 2014).

The most common mental illness is depression which occurs in 15% of children from ages five to 12 (Pilcher, 2008). Teachers may find students who are depressed eat less and may

show weight loss, weight gain, or become obese suggesting that mental illness can lead to other physical ailments (Pilcher, 2008). The severity of these mental disorders has raised concerns in teachers not only because of the impact it has on student grades but because of how these illnesses interfere with students' everyday lives (Berger-Jenkins, 2014).

Obesity

One of today's most talked about topics is obesity affecting 12.7 million children and adolescents (Childhood Obesity Facts Overweight & Obesity | CDC, 2016). Odum (2013) reported that 28 teachers responded that obesity was a problem in their student population, thus confirming teachers' awareness of the issue and the severity of it. In the past 20 years, childhood obesity has escalated (Odum, 2013). O'Neil (2016) emphasized that 15% of children from ages six to 11 are overweight or obese. Because of their excess weight, students are at risk for developing hypertension, cancer, diabetes, and cardiovascular disease (O'Neil, 2016)

Obesity has been linked to premature death in more than one million United State citizens (O'Neil, 2016). Achhab (2016) highlighted that risky health behavior such as being overweight and obese is one of the leading causes of mortality in youth. In Arkansas, 20% of children are obese (Healthy Arkansas, 2013). Almost 50% of children report eating fruit less than one time a day in the state of Arkansas and less than 30% are physically active for 60 minutes each day (Arkansas State Nutrition, Physical Activity, and Obesity Profile | DNPAO | CDC, 2016).

Aims and Research Questions

The purpose of this study was to identify which illnesses are of biggest concern to teachers of elementary students and to assess the teacher's knowledge of resources available to address these concerns.

Research Question 1: What are elementary school teacher's student health concerns?

Research Question 2: How knowledgeable are school teachers with regards to resources available for those health concerns?

Research Design and Methods

The purpose of this study was to identify elementary school teacher’s concerns for student health and to assess their knowledge of resources that address those health concerns. This study was approved by the University of Arkansas Institutional Review Board prior to implementation. A cross-sectional design was utilized to assess teacher concerns. A paper survey, that took approximately 10 minutes to complete, was administered to elementary school teachers (N=86) during planned faculty meetings. The surveys were coded and de-identified prior to analysis.

Research and Participants

The research site was three elementary school in the Springdale School District, in Northwest Arkansas. A convenience sample of 86 teachers across the three schools were surveyed. All participants were employed by the selected school district and taught in a classroom setting. The sample consisted of 95% females and 94% were Caucasian. Other demographics included current grade being taught and number of years teaching.

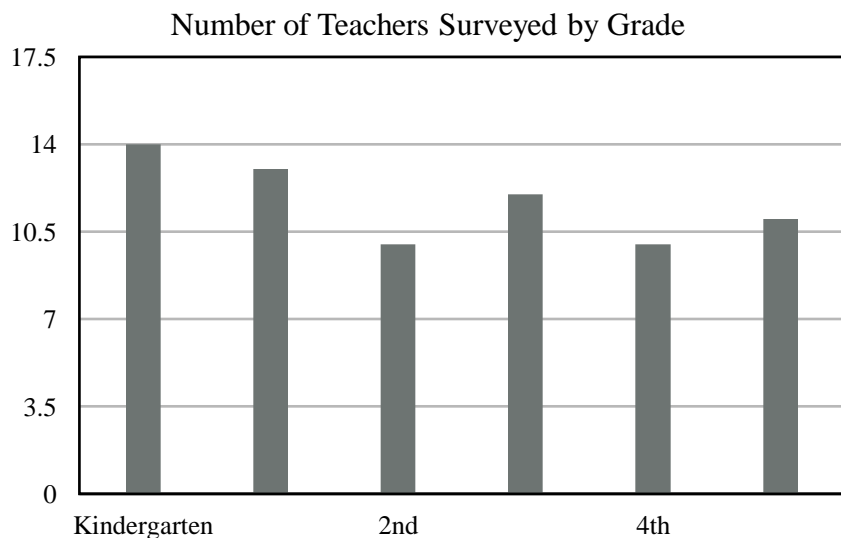


Figure 1: Number of teachers surveyed by grade across the three schools.

Instruments

A survey was used to collect data on elementary school teachers' student health concerns and knowledge of resources. The survey consisted of four demographic questions and four open-ended health related questions. The demographic questions were used to describe the population that was surveyed. The open-ended questions were used to identify the teachers' concerns without bias. This allowed for honest answers that were not persuaded by examples. The survey was researcher developed and reviewed by two school teachers to provide face validity.

Data Collection and Analysis

All data was reported in aggregate. Gender, ethnicity, years of teaching and demographics were obtained and reported using descriptive statistics. The survey data was analyzed using a ranked sum test and descriptive statistics. The most frequent concerns were grouped, analyzed by school and then compared to the other schools. Using the qualitative data from the surveys, the most commonly requested resource was identified.

A cross sectional design was used in combination with the frequency procedure to find the frequency distribution among the schools and concerns. Fisher's exact test was applied to identify if there was a statistical significance among the schools and concerns. The p-value was < .001 and a modified Bonferroni was used to change the alpha from 0.05 to 0.044 for the 6 follow up tests (shown in Tables 3-8).

Results

After the concerns were grouped and analyzed, the top three concerns reported were hygiene, mental health, and nutrition. The results are shown in Tables 1-8. The tables look at the

frequency of each concern, the percentage of teachers who listed the concern, the row percentage (Row Pct) of the concerns, and column percentage (Col Pct) of the schools.

Variables

School code 1 - school 1

School code 2 - school 2

School code 3 - school 3

Concern code 1 - Hygiene

Concern code 2 - Mental health

Concern code 3 – Nutrition

Table 1: Frequency for overall concern using FREQ Procedure.

| Concern Code | Frequency | Percent | Cumulative Frequency | Cumulative Percent |
|---------------------|------------------------|----------------|-----------------------------|---------------------------|
| 1 | 37 | 43.02 | 37 | 43.02 |
| 2 | 19 | 22.09 | 56 | 65.12 |
| 3 | 30 | 34.88 | 86 | 100.00 |
| | Frequency Missing = 16 | | | |

Table 2: Frequency by school using FREQ Procedure. Fisher's exact test shows there was a significant difference between the schools by concern overall $p < .001$.

| School Code | Concern Code 1 | Concern Code 2 | Concern Code 3 | Total | Frequency Percent Row Pct Col Pct |
|------------------------|----------------|----------------|----------------|--------|--------------------------------------------|
| 1 | 13 | 6 | 7 | 26 | |
| | 15.12 | 6.98 | 8.14 | 30.23 | |
| | 50.00 | 23.08 | 26.92 | | |
| | 35.14 | 31.58 | 23.33 | | |
| 2 | 20 | 1 | 9 | 30 | |
| | 23.26 | 1.16 | 10.47 | 34.88 | |
| | 66.67 | 3.33 | 30.00 | | |
| | 54.05 | 5.26 | 30.00 | | |
| 3 | 4 | 12 | 14 | 30 | |
| | 4.65 | 13.95 | 16.28 | 34.88 | |
| | 13.33 | 40.00 | 46.67 | | |
| | 10.81 | 63.16 | 46.67 | | |
| Total | 37 | 19 | 30 | 86 | |
| | 43.02 | 22.06 | 34.88 | 100.00 | |
| Frequency Missing = 16 | | | | | |

Table 3: Frequency by school using FREQ Procedure. Fisher's exact test shows there was a significant difference ($p = 0.395$) between concern code 1 and 2 by school 1 and 2.

| School Code | Concern Code 1 | Concern Code 2 | Total | Frequency Percent Row Pct Col Pct |
|-------------|----------------|----------------|-------|--------------------------------------------|
| 1 | 13 | 6 | 19 | |
| | 32.50 | 15.00 | 47.50 | |
| | 68.42 | 31.58 | | |
| | 39.39 | 85.71 | | |
| 2 | 20 | 1 | 21 | |
| | 50.00 | 2.50 | 52.50 | |
| | 95.25 | 4.76 | | |
| | 60.61 | 14.29 | | |

| School Code | Concern Code 1 | Concern Code 2 | Total |
|-------------|----------------|----------------|--------------|
| Total | 33 82.50 | 7 17.50 | 40 100.00 |

Table 4: Frequency by school using FREQ Procedure. Fisher's exact test shows there was not a significant difference ($p = 1$) between concern code 1 and 3 by school 1 and 2.

| School Code | Concern Code 1 | Concern Code 3 | Total | Frequency Percent Row Pct Col Pct |
|-------------|-------------------------------|------------------------------|--------------|--------------------------------------------|
| 1 | 13 26.53 65.00 39.39 | 7 14.29 35.00 43.75 | 20 40.82 | |
| 2 | 20 40.82 68.97 60.61 | 9 18.37 31.03 56.25 | 29 59.18 | |
| Total | 33 67.35 | 16 32.65 | 49 100.00 | |

Table 5: Frequency by school using FREQ Procedure. Fisher's exact test shows there was a significant difference ($p = 0.0176$) between concern code 1 and 2 by school 1 and 3.

| School Code | Concern Code 1 | Concern Code 2 | Total | Frequency Percent Row Pct Col Pct |
|-------------|-------------------------------|------------------------------|-------------|--------------------------------------------|
| 1 | 13 37.14 68.42 76.47 | 6 17.14 31.58 33.33 | 19 54.29 | |

| School Code | Concern Code 1 | Concern Code 2 | Total | Frequency Percent Row Pct Col Pct |
|-------------|------------------------------|-------------------------------|--------------|--------------------------------------------|
| 3 | 4 11.43 25.00 23.53 | 12 34.29 75.00 66.67 | 16 45.71 | |
| Total | 33 67.35 | 18 51.43 | 35 100.00 | |

Table 6: Frequency by school using FREQ Procedure. Fisher's exact test shows there was a significant difference ($p = 0.011$) between concern code 1 and 3 by school 1 and 3.

| School Code | Concern Code 1 | Concern Code 3 | Total | Frequency Percent Row Pct Col Pct |
|-------------|-------------------------------|-------------------------------|--------------|--------------------------------------------|
| 1 | 13 34.21 65.00 76.47 | 7 18.42 35.00 33.33 | 20 52.63 | |
| 3 | 4 10.53 22.22 23.53 | 14 36.84 77.78 66.67 | 18 47.37 | |
| Total | 17 44.74 | 21 55.26 | 38 100.00 | |

Table 7: Frequency by school using FREQ Procedure. Fisher's exact test shows there was a significant difference ($p < .0001$) in concern code 1 and 2 by school 2 and 3.

| School Code | Concern Code 1 | Concern Code 2 | Total | Frequency Percent Row Pct Col Pct |
|-------------|----------------|----------------|--------|--------------------------------------------|
| 2 | 20 | 1 | 21 | |
| | 54.05 | 2.70 | 56.76 | |
| | 95.24 | 4.76 | | |
| | 83.33 | 7.69 | | |
| 3 | 4 | 12 | 16 | |
| | 10.81 | 32.43 | 43.24 | |
| | 25.00 | 75.00 | | |
| | 16.67 | 92.31 | | |
| Total | 24 | 13 | 37 | |
| | 64.86 | 35.14 | 100.00 | |

Table 8: Frequency by school using FREQ Procedure. Fisher's exact test shows there was a significant difference ($p = .0027$) in concern code 1 and 3 by school 2 and 3.

| School Code | Concern Code 1 | Concern Code 3 | Total | Frequency Percent Row Pct Col Pct |
|-------------|----------------|----------------|--------|--------------------------------------------|
| 2 | 20 | 9 | 29 | |
| | 42.55 | 19.15 | 61.70 | |
| | 68.97 | 31.03 | | |
| | 83.33 | 39.13 | | |
| 3 | 4 | 14 | 18 | |
| | 8.51 | 29.79 | 38.30 | |
| | 22.22 | 77.78 | | |
| | 16.67 | 60.87 | | |
| Total | 24 | 23 | 47 | |
| | 51.06 | 48.94 | 100.00 | |

Discussion

Among the 86 teachers surveyed, the highest concern was hygiene. Hygiene included teachers who listed lice, skin rashes, skin diseases, and dental care as concerns. The second highest concern was nutrition. This covered both malnutrition and obesity. The third highest concern was mental health. Mental health encompassed trauma, stress, anxiety, and depression. In addition to these main concerns, teachers also listed vision, exposure to cigarette smoke, and attention deficit hyperactivity disorder (ADHD).

The results were consistent with what both Nadeau (2015) and Harrington (2015) concluded about obesity and mental health being common concerns. However, unlike the literature, the teachers surveyed in this study proposed that hygiene was more prevalent in their classroom than chronic illness. The difference in the results and past studies could show a discrepancy among what health professionals view and determine as a main concern and what teachers view and determine as a main concern.

The differences noted between the schools were significant with one exception. Table 4 reveals no significant difference between school 1 and 2. In other words, school 1 and school 2 both had comparable number of teachers listing hygiene or nutrition as a main concern. School 3 was not analyzed in this data set.

Qualitative analysis was used to find that 47% of teachers reported a need for resources for parents. Many of the statements teachers made in their survey under the section that requested teachers to "list additional resources they would like to see available to their students support their health," commented that there is a lack of parental resources and education. Knowing that children spend a majority of their time at home with their parents, it is understandable that a lack of parental knowledge would have a profound impact on a child's

health. This knowledge could be applied in the future in hopes of providing adequate resources for the parents that may enhance their children's health.

Limitations

The study had limitations, which should be considered. The sample size was smaller than desired which affected the statistical accuracy. The surveys were distributed at faculty meetings, so scheduling was difficult at times and limited the number of schools that could be utilized. Future researchers should consider using a larger sample size in order to generalize the results from this study.

Another limitation to consider is social desirability bias that may have affected the results of this study. The participants knew what the purpose of the study and the study was given in a small setting. There appeared to be some discussion and sharing among the teachers while taking the survey. However, the investigators encouraged participants to respond honestly and individually.

Conclusion

The results of this study display that hygiene, mental health, and nutrition are health concerns that need additional support for elementary school students. Additionally, the results indicated that the teachers surveyed in this study perceived there is a lack of education and resources for parents to support children's health. Schools can take this data and evidence into consideration for future development of resources for their student health programs. With this knowledge, schools can address the needs of their students and positively enhance not only the children's health but also their education.

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