A Survey of Current Knowledge and Practices of Kansas Physician Assistants Regarding Infant Mortality

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Abstract. Kansas’ infant mortality rate is higher than the national average. Research supports specific infant mortality prevention techniques but it is unknown if physician assistants (PAs) in Kansas are teaching them. Our objective is to identify Kansas PAs’ knowledge and practice on infant mortality. Prevention recommendations were used to create a survey that was approved by the WSU IRB, and completed by Kansas PAs. Responses were analyzed for associations between demographic groups, and descriptive percentages were evaluated. The survey response rate was 39%. Four significant findings were identified between demographic groups, and discrepancies were found between current infant mortality prevention recommendations and how Kansas PAs implement them.

1. Introduction

Infant mortality is defined as the death of an infant before the age of one year. According to the National Vital Statistics Report, a document produced by the Centers for Disease Control and Prevention (CDC), the top causes for infant mortality are congenital birth defects, infants born before 37 weeks gestation, low birth weight, Sudden Infant Death Syndrome (SIDS), injuries, and pregnancy complications. [1] Infant mortality is often used as an indication of the health of a community. This is because the environmental, social, socioeconomic, and educational factors affecting the mother’s health directly correlate with the morbidity and mortality of infants. [2]

Infant deaths are measured and reported as annual infant mortality rates (IMR) in number of deaths per 1000 live births. The average rate in the United States in 2011 was 6.05.[1, 2] Overall, this rate has been on a steep downward trend over the last eight decades.[3] Kansas has also experienced a dramatic decrease in rates over the last century. Nevertheless, Kansas still exceeds the current national average with a rate of 6.2 deaths per 1000 live births in 2011.[2] In the year 2010, the CDC’s Department of Health and Human Services established an updated set of scientific health goals for Americans to achieve by the year 2020, commonly known as “Healthy People 2020.” Within these goals, a national objective was set to reach an average IMR of 6.0. [2]

Study Purpose

There are many known preventions of infant mortality, but there is no information about Kansas physician assistants’ (PAs) knowledge or practices regarding these preventions. The objective of this study is to identify and analyze the knowledge of Kansas PAs regarding infant mortality, focusing on the preventative methods that they choose to discuss with their patients. By uncovering research supported prevention techniques that are not currently utilized by PAs in patient education, the goal is to expand the knowledge that physician assistants can pass on to their patients and in turn, lower infant mortality rates in Kansas.

2. Experiment, Results, Discussion, and Significance

Methods

A literature search of articles published from 2000 to 2013 was conducted using pertinent search terms utilizing Cochrane Library, CINAHL, EBSCO, and MEDLINE databases. Manual reviews of searched literature references were also performed to find related articles. The literature search lead to the development of a survey composed of 25 questions inquiring specifically about knowledge of infant mortality in Kansas and practicing habits of patient education. Demographic questions were also included. The study was approved by the WSU Institution Review Board (IRB), and a statement of willingness to complete the survey was included, indicating consent. The study population consisted of Family Medicine, Pediatrics, and Obstetrics/Gynecology (OB/GYN) PAs practicing in
Kansas. The survey was emailed using Qualtrics, to all 860 PAs licensed in Kansas. It was then sent twice more to non-responders. The responses from PAs not working in primary care were filtered out, leaving 69 responses from primary care PAs.

Data Analysis

Data from the survey was combined into groups comparing each knowledge and practice question to gender, age of the physician assistant, age of the PAs youngest child, ethnicity of patient population, and number of years practiced in their current specialty. Data was analyzed and blended using cross tabulations within the Qualtrics survey software, and then further analyzed in SPSS software. The Chi-Square formula was used to analyze any statistical significance between data. Statistical significance was set at $p < .05$ is significant, $p < .01$ is highly significant, and $p < .001$ is very highly significant. [4]

Results

Out of the 860 PAs who received the survey, only 176 were previously identified as working in primary care. 69 primary care PAs responded to the survey, resulting in a response rate of 39%.

The average survey respondent was female, ≤41 years old, did not have any children, served a patient population that was predominantly white, and had been working in family practice medicine for <10 years. Upon examination of grouped responses, Kansas physician assistants who work in a population that serves >30% minorities are more likely to be aware that black/non-Hispanics are at an increased risk of infant mortality ($p=0.02$). Female PAs are more likely to follow current recommendations and suggest the Tdap vaccination for expectant mothers ($p=0.05$). Female PAs are also much less likely to promote optimal birth spacing, or suggest waiting 18 months before subsequent conceptions, than male providers ($p=0.01$). Older providers are less likely to suggest the use of pacifiers in infants than younger providers ($p=0.03$), although most PAs still infrequently recommend the use of pacifiers in general. A majority of survey respondents were not aware that congenital anomalies are the leading cause of infant mortality in Kansas. While most survey takers believe that infant vaccinations decrease the risk of infant mortality, some think they do not. All survey participants agree that educating parents in techniques to manage the stress of dealing with an inconsolable infant reduces the risk of infant mortality. Breast feeding is almost unanimously agreed upon to reduce the infant mortality risk. All participants are aware that folic acid supplementation reduces the risk of neural tube disorder. While the majority of providers counsel expecting mothers about alcohol and tobacco cessation, a few admitted they never, rarely, or only sometimes did. It was narrowly split among those who counseled parents to avoid bed sharing with their infants and those who never, rarely, or only sometimes did. The vast majority of survey participants taught parents to place infants on their back to sleep. A majority of Kansas PAs frequently educated adolescent patients about methods for preventing unintended pregnancy; there were several who did so less frequently. Very few survey responders approved the option of a non-medically indicated delivery before 39 weeks gestation.

Clinical Significance

The survey made one thing very apparent; regardless of age, gender or population served, Kansas PAs have much room for improvement regarding guideline recommended practice prevention techniques to reduce infant mortality. Now that a better grasp is felt on what areas of practice knowledge and techniques can be improved upon and passed along to patients, Kansas PAs can further the effort of reducing infant mortality in Kansas

3. Conclusions

It was discovered that there is still room for improvement with providers in Kansas regarding infant mortality. The survey showed that some PAs are unaware of the patient population that is at highest risk of infant mortality. PA’s should be educating parents on safe sleep measures, as well as advocating for unintended pregnancy prevention more often. By realizing the discrepancies, Kansas PAs can do their part in reducing infant mortality.
4. References