Hospital Acquired Pneumonia: Literature Review

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To gain more knowledge in healthcare, a question must be asked, and research must be done that provides an answer. Quantitative studies aim to understand better and attain knowledge of a specific topic using objective data and numerical values that have a statistical impact (Houser, 2023). Pneumonia is a common illness that many people suffer from. It can be acquired from the community or in a healthcare setting like a hospital. This essay will summarize and analyze different articles with different quantitative research. Many questions arise, like how many hospital-acquired pneumonia cases are there? A literature review examines scholarly sources that share the same topic (McCombes, 2023).

Bacterial etiology and Mortality Rate in Community-Acquired Pneumonia, Healthcare-Associated Pneumonia and Hospital-acquired Pneumonia in Thai University Hospital

Any patient admitted and tested positive for pneumonia 48 hours after admission is considered hospital-acquired pneumonia (HAP). Research has been completed on HAP and the statics for mortality rate for those patients diagnosed with pneumonia. The authors comprise Jaturon Poovieng, Boonsub Sakboonyarat, and Worapong Nasomsong (Poovieng et al., 2022). The article analysis the days between the diagnosis of the disease and the day of the death (Poovieng et al., 2022).

Key Points

A study was done in Thailand to determine the death rate and appropriate treatment. The aim was to recognize the risk factors for HAP to improve medication use and the quality of care that the patients receive (Poovieng et al., 2022). The subjects included in the data collection were a pool of 250 inpatients diagnosed with pneumonia over the age of

eighteen. The study also split the participants into groups by how they developed the illness, such as community-acquired pneumonia (CAP) or HAP. The median days of survival of HAP were 44 days from the admission to the patients who succumbed to the disease (Poovieng et al., 2022). To collect this data, charts were reviewed from the patients admitted to that hospital. Their survival rate of HAP was 98.75%, and was lower than CAP. The risk factors associated with HAP are being female, having a higher age, actively smoking, and having a history of insulin use (Poovieng et al., 2022). It was concluded that gram-negative was the most common pathogen causing pneumonia. The *p-value* given in the HAP article was 0.425 (Poovieng et al., 2022). The datasets analyzed during the study are unavailable due to the laws protecting the patient's privacy (Poovieng et al., 2022).

Assumptions

The information found from the study confirmed that many patients tested positive for pneumonia even though they did not have the illness during admission. The study demonstrated that older adult females have a lower mortality rate than older men (Poovieng et al., 2022). It was confirmed that most pneumonia cases were caused by gram-negative pathogens (Poovieng et al., 2022). Why are so many patients testing positive after testing negative after admission? Are healthcare workers to blame for the spread of the disease from not following protocol for standard precaution? Research like this can answer these questions by giving us data impacted by HAP (Poovieng et al., 2022).

Deficit/Conclusion

The article aims to understand the connection between patient pneumonia acquired in the hospital setting and the mortality rate (Poovieng et al., 2022). Having actual studies and

numbers done gives proof that the mortality rate remains high, specifically in the elderly population. This article suggests continuing to find the connection between the number of HAP patients and the spreading route (Poovieng et al., 2022). If nurses fail to see the link, then the numbers will continue to rise of HAP. The students accept this reasoning because finding the relationship between hospital-acquired illnesses and the carrier is vital. Articles like this give healthcare numbers and data to understand better where the issue lies in the healthcare setting (Poovieng et al., 2022).

Factors influencing mortality in hospital-acquired pneumonia Caused by Gram-negative Bacteria in China.

Despite advances in antimicrobial treatment, hospital-acquired pneumonia (HAP) remains an imperative cause of mortality and disease in healthcare (Feng et al., 2019). Gram-negative bacteria (GNB) rise is a significant concern. The article analyzes HAP patients from January to December 2014 (Feng et al., 2019). The article was written by Ding-Yun Fenga, Yu-Qi Zhoua, Xiao-Ling Zoua, Mi Zhoub, Wen-Bin Wua, Xiao-Xia Chenc, Yan-Hong Wanga, Tian-Tuo Zhang (Feng et al., 2019).

Key Points

The study was done at the united hospital of Sun-Yat-sen University, Guang-dong, China (Feng et al., 2019). During the experimental period, there were 1472 cases of HAP occurred among 210,417 inpatients. The data collected were all episodes of HAP caused by GNB in the hospital (Feng et al., 2019). The death rate for HAP was 39 deaths. The patients included in the study were over the age of 18 that were diagnosed with HAP from a confirmed X-ray or a

computer tomography (Feng et al., 2019). The researchers did a chart review of the patients admitted to get the data they were seeking to help further their research. The risk factor for GNB-HAP was over the age of 70, elevated BUN levels, and intensive care unit (ICU) admissions. These patients had a 30-day mortality rate due to decreased lung performance and a weakened immune system (Feng et al., 2019). The *p-value* for HAP in patients older than 70 was 0.664 (Feng et al., 2019).

Assumptions

In this analysis, we noted that GNB was the leading pathogen of HAP. This was like previous studies from this article that saw a rise in pneumonia in the elderly (Feng et al., 2019). The article demonstrated that patients older than 70 in the ICU had an increase in their mortality rate. This ensued because of the warmer climate and increase in the occurrence of organisms in the environment. The emerging world tends to have increased rates of infection related to GNB (Feng et al., 2019). This implies that attention should be focused on controlling risk factors and preventing GNB-HAP to lower mortality rates and improve diagnosis (Feng et al., 2019).

Deficit/Conclusion

The article's conclusion leaned toward results that direct the study to show GNB was the leading pathogenic bacteria of HAP. It highlighted the risk factor to enable the healthcare teams to recognize the patients more at risk (Feng et al., 2019). The student accepts the author's liens of reasoning because the article provides accurate data on HAP (Feng et al., 2019). This article insinuates that HAP will continue to be an issue, but some things can be done to help prevent the spread (Feng et al., 2019). The repercussion for a nurse, if they fail to see the reasoning, is the potential to spread HAP to the patients further.

Preventing Non-Ventilator Hospital-Acquired Pneumonia: A Survey of Medical-

Surgical Nurses

In 2008, it was announced that new protocols had to be implemented due to the rise of non-ventilator hospital-acquired pneumonia (NVHAP). A study has been completed to explain how nurses perceive and implement prevention in hospitals in the United States (Giuliano et al., 2023). How are nurses preventing and treating patients with NVHAP? This article goes into detail about these questions. The authors include Karen Giuliaino, Dian Baker, and Ellen Benjamin (Giuliano et al., 2023).

Key Points

Pneumonia is one of the leading infections in hospitals, with NVHAP representing 60% of cases. The study emailed 118 Academy of Medical-Surgical Nurses members and determined the standing of NVHAP and prevention programs. The nurses received the email and answered the questions (Giuliano et al., 2023). That data was then analyzed using descriptive statistics. Descriptive statistics recognized several opportunities to improve the prevention and monitoring of NVHAP (Giuliano et al., 2023). Several factors impact patient safety, including a high transfer rate to ICU, elevated admissions rates, and increased antibiotic exposure (Giuliano et al., 2023). The study also found that 60% of patients of NVHAP were transferred to other healthcare facilities after discharge. The questions were turned into data to represent the number of protocols that needed to be followed. For example, 19 nurses out of 254 felt like NVHAP could be preventable, but they did not have access to the correct oral care supplies for their patients resulting in a higher rate of NVHAP (Giuliano et al., 2023). There remaining nurses had the proper supply and a decrease of 3% in NVHAP. The *p-value* is 0.766 for the hospital that

adequately provided its staff with the correct equipment to help stop the spread of pathogens. The nurses gave these numbers, and the number of patients that had NVHAP was supplied from research that was done prior (Giuliano et al., 2023).

Assumptions

The article uncovers essential aspects of NVHAP prevention. The results specified several areas where the nurses could help prevent HAP and enhance patients' safety by providing a clean and sterile environment (Giuliano et al., 2023). Are there underlying issues of the healthcare staff's care spreading illnesses? The study finds that there are steps that nurses can take to prevent the spread of the illness. The hospital leader may reflect on these types of evidence-based studies to help quality improvement to help guide their staff in the right direction to lower the rate of NVHAP (Giuliano et al., 2023).

Deficit/Conclusion

The article's conclusion indicated that there are protocols that can be put in help to help lower the rate of NVHAP. The research shows that nurses can take the proper steps to help protect their patient's health (Giuliano et al., 2023). The student does accept the reasoning behind this article. There is always something that healthcare workers can do to help provide a safe environment, and that includes stopping the spread of diseases. If nurses fail to consider these studies, diseases like NVHAP will continue to rise (Giuliano et al., 2023).

<div align="center">

Conclusion

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HAP will directly impact hospitals around the globe. The study completed in Thailand showed the rate of HAP after 48 hours after admission (Poovieng et al., 2022). It uncovered that women

have a lower mortality rate than men. People who are active smokers will cover slower than non-smokers (Poovieng et al., 2022). It was found that gram-negative bacteria were one of the main concerns for HAP (Feng et al., 2019). It was focused that we should help control risk factors to help prevent the spread of HAP. Hospitals should recognize the risk factors to help implement protocols (Feng et al., 2019). Many nurses felt it was the administration's fault that HAP was rising. They need the proper equipment to provide a healthy and sterile environment (Giuliano et al., 2023).

The research collected from all three articles can improve patient outcomes by recognizing where the issue lies. If the issue increases from the failure of standard precaution, then studies can help improve these data. This, in return, can help nursing practice refine their quality of care. Knowledge is gained from research to help future research.

Using knowledge and imply it to quality improvement is helpful to all parties involved. The focus is to provide a safe environment to patients (QSEN Institute, 2020). Attitudes toward new research can help distinguish if this will be a continuing issue. A positive attitude help implement new nursing skills to help avoid the spread of HAP. The skill of looking at new data and understanding will be imperative to studies. To analyze numbers to help figure out where the problems are (QSEN Institute, 2020).

Research of new statistics, such as HAP, will help continue to examine the spread of pathogens and how client care is affected (Houser, 2023). Healthcare as a whole will be affected because everybody has the same end goal: getting the patient healthy. Nurses will have new knowledge to feel confident in their level of care. Studies like these can give nurses a way to attain new information to analyze it themselves. It can demonstrate new improvements that can

be made in healthcare to give patients a sterile environment and stop the spread of hospital-

acquired illnesses such as pneumonia.

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