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Points criteria:

Criteria	Under performance <3 points per criteria	Basic 3 - 3.9 points per criteria	Proficient 4.0 - 4.4 points per criteria	Distinguished 4.5 - 5 points per criteria
Required content objectives	Content objectives are missing or sparsely covered.	Content objectives are not consistently addressed. Demonstrates minimal understanding of content.	Content objectives consistently addressed. Demonstrates understanding of content.	Content objectives consistently addressed. Demonstrates mastery of content.
Academic writing standards	Writing lacks scholarly tone & focus. Sparse content. Multiple grammatical, spelling, & factual errors. Reliance on bullet points rather than effective writing in speaker notes. 4 or more direct quotes per project.	Writing is unclear and/or disorganized. Inconsistent scholarly tone. Inadequate depth of content. Grammatical and spelling errors. No more than 3 direct quote of less than 40 words per project.	Writing demonstrates general exploration of content. Responses are clearly written using scholarly tone. Few grammatical and/or spelling errors. No more than 2 direct quote of less than 40 words per project.	Writing demonstrates comprehensive exploration of content. Responses are clearly written using scholarly tone. Rare grammatical and/or spelling errors. No more than 1 direct quote of less than 40 words per project.
APA formatting	References and citations have multiple errors or are missing.	References and citations have errors.	References and citations have few errors.	References and citations have rare errors.

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Carefully review the above rubric and the directions for each of the following pages. Select from **one** of the two articles provided in the course discussions area. Based on the type of research selected, respond to the questions on the following pages.

References: See the course syllabus for specific requirements on references for all assignments.

Part A: Select just one (not both) of the articles from the week two DQ assignment thread. Determine whether the article is qualitative or quantitative research, then, using an academic voice & APA formatted citations/references, **formulate a 150-300 word response to each of the following sections and enter your responses into the textboxes below.**

1. Using APA format, enter the reference for the article you reviewed. Explain the rationale for selecting this research article and how it relates to your own practice.

Dai, T., Lv, L., Liu, X., Chen, J., Ye, Y., & Xu, L. (2020). Nasal Pressure Injuries Due to Nasal Continuous Positive Airway Pressure Treatment in Newborns: A Prospective Observational Study. *Journal of wound, ostomy, and continence nursing : official publication of The Wound, Ostomy and Continence Nurses Society*, 47(1), 26–31.
<https://doi.org/10.1097/WON.0000000000000604>

The rationale behind selecting this research article is that medical device-related injuries are common in my current area of work. I currently work on a medical/surgical ventilator and pulmonary unit. My patients use devices such as mechanical ventilators, high-flow nasal oxygen, nasal cannulas, and BiPAP devices. These devices are sometimes placed incorrectly, or tightly onto the patient's face in order to deliver oxygen best, as maintaining their airway is the priority. Ventilator-dependent patients can have tracheostomies that are at risk for peri-ostomy skin break down or they may have an endotracheal tube that has anchors on their face for proper alignment, also putting the patient at risk for device-related injury. Although my patients are not newborns in the Newborn Intensive Care Unit (NICU), my patients have fragile skin, and many are in multiple organ system failure, making them malnourished and difficult to treat in terms of wound healing. I chose this article as a means to understand what was learned from this particular study about nasal pressure injuries.

2. Describe how you determined whether the selected research article is qualitative or quantitative.

The research obtained in *Nasal Pressure Injuries Due to Nasal Continuous Positive Airway Pressure Treatment in Newborns: A Prospective Observational Study* is quantitative. The study was “formal, objective and systematic” (*Applying research to WOC nursing care, 2022*). The research conducted was used to collect numerical and objective data from a set of NICU patients to

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

determine the statistics on the occurrences of nasal pressure injuries with the use of Nasal Continuous Positive Airway Pressure (NCPAP). The purpose of quantitative data is to provide evidence of occurrence, obtaining the data for an incidence allows for prevention and intervention to take place. The study found that after roughly four days of using NCPAP, the patient develops a nasal pressure injury with all of the specific measures of prevention in place. Therefore, using this data can help to understand what variables should change to make an impact in the future. Unfortunately to me, it sounds like there was very strict and proper protocol in place for prevention of nasal pressure injuries with this device, so I'm not sure what could improve. Although I do not have an experience with this population and maybe there are newer interventions not included in this study as it was conducted between 2017 and 2018.

Part B: Based on the selected research, formulate a response to each of the following 8 questions associated with the selected research type (qualitative or quantitative). Enter your thoughtful responses to the textboxes below. **Each response should be 150 – 300 words and cited using APA style from your reference list.**

1. Why is IRB/informed consent an important part of research? Determine if Institutional Review Board (IRB) approval/informed consent obtained. If the research was done outside of the United States, the review body may go under a different name.

It is important to have informed consent and Institutional Review Board (IRB) stated and included in the research because it validates the level of academia of the study. Human rights must be maintained for any research study. Human rights violations have existed in research studies all over the world, testing drugs illegally for example. Therefore it is of utmost importance that the review board or an institution of that likeness reviews the study for its purpose and upholds the reputation that no harm is done to any subject in the study. The study states "Study procedures were reviewed and approved by the Ethics Committee of the First Affiliated Hospital of Xiamen University (approval number is KYX-2017-010). Each patient's parents or legal guardians provided consent for study participation" (Dai et. al, 2020). As noted in this study, there is a review board connected with the university where the research was conducted under.

2. Describe (based on selected research type)
 - a. **Qualitative article:** the purpose statement - or -
 - b. **Quantitative article:** the problem and purpose of the research

This article I selected was a quantitative article, the problem is described in the title *Nasal Pressure Injuries Due to Nasal Continuous Positive Airway Pressure Treatment in Newborns*. The issue is that there is a correlation between nasal pressure

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

injuries with the use of nasal continuous positive airway pressure (NCPAP) in newborns who are under the care of the newborn intensive care unit (NICU). The purpose of the research was to gather data on the “incidence, severity, and risk factors of nasal pressure injuries due to NCPAP in newborns” (Dai et. al, 2020). The target subjects were those patients placed on NCPAP in the NICU. These patients with such fragile skin, underdeveloped digestion tracts, and unstable airways are at high risk for developing these particular medical device-acquired pressure injuries. This problem is very unique to this particular patient population but it is a valid and purposeful question to research, in order to better advances the interventions to place for these patients.

3. Describe (based on selected research type)
 - a. **Qualitative article:** research design - or -
 - b. **Quantitative article:** the research questions

The research questions associated with the quantitative article were focused on the factors that increased the occurrence rate of nasal pressure injuries in newborns that used the NCPAP device. The important factors that were associated with nasal pressure injuries were a gestational age of less than 32 weeks, and longer use of the NCPAP device, what combination of these two factors created a high instance of pressure injuries? What preventative dressing could be used to slow down the progression of a nasal pressure injury? Was there a correlation between the amount of time a newborn was placed on this machine and their low birth weight? The questions of the study were trying to identify what specific combinations of risk factors created the perfect combination to cause such an unfortunate pressure injury. Gathering this amount of data also had the purpose to help prevent future pressure injuries by identifying the areas in which prevention could use improvement.

4. Explain in your own words a summary of the literature review used in the selected article.

The literature review for this article includes three specific studies. The first study had a smaller group of subjects, just 35 with a low rate of pressure injuries with patients using the NCPAP, just 5% of the study’s participants. The second study reports an 86% incidence rate in a study of 81 participants with findings that CPAP injuries occur because of nasal skin friction with the cannula. The third study considered states that 100% of their 147 participant study obtained a pressure injury to the nasal passageway, but this only used one single type of nasal prong product. A different scale was also used to determine the severity of the injury. Through this review the authors of this article were gathering data to unify the “classification of a nasal pressure injury” (Dai et. al, 2020).

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

Assembling and organizing data gives way to a more resourceful measurement of the data. A literature review allows a research group to analyze and outline what faults other studies have and where to improve on gathering their set of data.

5. Identify (based on selected research type)
 - a. **Qualitative:** the data collection method(s) – or –
 - b. **Quantitative:** the study design, including sample, setting, & data collection methods.

The sample in this study were newborns admitted to the level 3 newborn intensive care unit (NICU) from March 2017 to February 2018, this took place at the First Affiliated Hospital of Xiamen University in Xiamen, China. The data was collected by examining the skin of the patient every 4 to 6 hours as a part of the skin assessment. The standard includes evaluating and assessing the nasal passageway for pressure injury. The pressure injuries were classified using the National Pressure Ulcer Advisory Panel, a type of classification system. This allowed for the data to remain objective because it was documented according to a specific set of criteria. “Data were recorded for all NCPAP-related nasal pressure injuries on the investigator-developed form and included occurrence date, injury severity (stage), treatment methods, and injury outcomes. The incidence of pressure injury was calculated using 2 formulas” (Dai et.al, 2020). These two formulas include the cumulative incidence (“number of newborns with pressure injuries/total number of newborns in sample x 100” (Dai et. al, 2020)) and the incidence density (“number of newborns with pressure injury/number of days newborn were followed x1000” (Dai et.all, 2020)).

6. Analyze (based on selected research type)
 - a. **Qualitative:** the results of the research study – or –
 - b. **Quantitative:** the data collection tool used; is the tool validated?

The data collection tool used follows the “National Pressure Ulcer Advisory Panel (NPUAP)/ European Pressure Ulcer Advisory Panel (EPUAP) and Pan Pacific Pressure Injury Alliance (PPPIA) International Pressure Ulcer Classification system” (Dai et.al, 2020). The data collection followed the international standard of staging pressure injuries. The NPUAP is the group of healthcare professionals concerned with revising and regulating the systems in place for wound care staging, treatment, prevention, and education. The group has a set of people assigned as task force members to review the literature relevant to staging. The process of adding two new stages, deep tissue injury and unstageable to the international staging tool took years of consideration. “During weekly meetings held between January 2015 and April 2016, the Task Force drafted definitions and descriptions based on new scientific findings” (Edsberg, et al. 2016). The processes of the NPUAP to implement new systems have to be validated and verified

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

over a period of time before they are put into action by practitioners. Therefore, after understanding how the NPUAP works to create new tools, I can conclude that the tool used in the study was validated.

7. Summarize (based on selected research type)
 - a. **Qualitative:** conclusions and implications for further research - or -
 - b. **Quantitative:** study results, including strengths & limitations.

The study found that the two main factors contributing to the prevalence of nasal pressure injuries were receiving NCPAP treatment for greater than six days in the NICU paired with a shorter than thirty-two-week pregnancy. Most pressure injuries were Stage 1 non-blanchable redness in the study and none required surgery or plastic reconstruction to resolve (Dai, et. al, 2020). Concluding the findings, it was recommended for more randomized and regulated trials take place in order to have a more comprehensive look at the preventative measures in place. Some limitations were that this particular NICU uses a specific type of NCPAP prongs and masks, so the study cannot make generalizations and instead remains specific to the brand or devices used. Adding a wide array of products adds in variables but allows for a more comprehensive study, preventative products all sell the same idea but which work most effectively for which cases, is something this study should be able to inform the reader.

8. Discuss why is this research important to the body of WOC nursing knowledge

This research is important to the body of WOC nursing knowledge because this is a very particular area of expertise in the nursing world. The majority of nurses have not even set foot in a NICU because of its specialization and need for particular expertise. As a nurse who has been working in health care for nearly ten years, newborns and the NICU has never been an area that interested me. I didn't know that these patients use a specific type of ventilator called a NCPAP. Thus demonstrating that this is an important piece of information and a unique study that was performed because this particular kind of pressure injury was not something I was aware occurs with this medical device. As a WOC nurse student, I want to be able to consult in any type of setting, there are potential positions as a consult that I would be required to have some knowledge of this type of pressure injury. I found this study to be very informative not only in general but with the prevention methods in place for nasal pressure injuries. I found the structure and regulation of the study to be a great guide into further studies I will undoubtedly read into as a student. The study will add to the great deal of knowledge that WOC nurses have by bringing to the attention of WOC nurses that medical device pressure injuries need more research conducted into prevention. The scope of the WOC nurse provides that

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

role “ advances the science and art of wound, ostomy, and/or continence care” (Murphree & Jaszarowski, 2021). Any and all research in the WOC field can advance and lend resources to someone in need, most often if it’s a problem in one area of nursing that is not the only area experiencing the issue.

9. Use APA format to list your references for this assignment:

(2022). *Applying research to WOC nursing care* [Powerpoint Slides]. R.B. Turnball Jr. School of Wound, Ostomy and Continence Nursing. <https://vimeo.com/701304291/88002d7444>

Dai, T., Lv, L., Liu, X., Chen, J., Ye, Y., & Xu, L. (2020). Nasal Pressure Injuries Due to Nasal Continuous Positive Airway Pressure Treatment in Newborns: A Prospective Observational Study. *Journal of wound, ostomy, and continence nursing; official publication of The Wound, Ostomy and Continence Nurses Society*, 47(1), 26–31. <https://doi.org/10.1097/WON.0000000000000604>

Edsberg, L. E., Black, J. M., Goldberg, M., McNichol, L., Moore, L., & Sieggreen, M. (2016). Revised National Pressure Ulcer Advisory Panel Pressure Injury Staging System: Revised Pressure Injury Staging System. *Journal of Wound, Ostomy, and Continence Nursing*, 43(6), 585-597. <https://doi.org/10.1097/WON.0000000000000281>

Murphree, R. W., & Jaszarowski, K. (2021). Professional practice for wound, ostomy, and continence nursing. In L.L. McNichol, C.R. Ratliff & S.S. Yates (Eds.), *Wound, Ostomy, and Continence Nurses Society core curriculum: Wound management* (2nd ed., pp. 1-11). Wolters Kluwer.