

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

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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.

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.

The article that I chose to review was Nasal Pressure Injuries Due to Nasal Continuous Positive Airway Pressure treatment in Newborns (Dai et al., 2020). This is a mixed qualitative and quantitative research study. This article was written to bring awareness to medical professionals on the pressure injuries related to the devices used to support airways in newborns. This article related to my personal practice as a pediatric nurse, caring for neonates and newborns that often require respiratory support. This will help me in my practice by being aware of the risks around using respiratory support devices, and the need for preventative measures for patients who require the respiratory support devices. This article specifically focuses on the nasal continuous positive airway systems, although there is a specific focus on these systems, the overall goal is to be aware if the risk of pressure injuries and best ways to prevent those pressure injuries while using this necessary or lifesaving equipment.

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

Qualitative vs. Quantitative Research | Differences, Examples & Methods (Streefkerk, 2019) defines quantitative research as, “research is expressed in numbers and graphs. It is used to test or confirm theories and assumptions. This type of research can be used to establish generalizable facts about a topic” (Streefkerk, 2019, para. 1). Some examples could be experiments, data collected is numerical, or the questions asked are closed ended (Streefkerk, 2019). Qualitative research is defined as “research is expressed in words. It is used to understand concepts, thoughts, or experiences. This type of research enables you to gather in-depth insights on topics that are not well understood” (Streefkerk, 2019, para 2). Additional examples are interviews that have open-ended questions, visual observations that can be described (Streefkerk, 2019). Based on the definitions the article that I selected would be qualitative. The research done collects objective data such as the amount of pressure injuries seen, the stages of pressure injuries, the age of the patient.

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.

Oregon State University defines the Institutional Review Board (IRB) as “an administrative body established to protect the rights and welfare of human research subjects recruited to participate in research activities conducted under the auspices of the institution with which it is affiliated” (“What is the IRB”, 2017, para 1). The IRB reviews the research study to be sure that the human subjects still have their rights, safety, and privacy. Informed consent is required to provide transparency and autonomy for participants in a research study. The Food and Drug administration explains the necessity for voluntary informed consent in their article Informed Consent for Clinical Trials (2018). All voluntary informed consent must have the appropriate information about the research study for participants to make an educated decision, facilitate the participants understanding of the study and what is being asked of them (“Informed Consent”, 2018, para. 1). There must be enough time for discussion and decision making, voluntary agreement from participant, continue to provide information through the study as things progress or change (“Informed Consent”, 2018, para.1).

The research study I selected was done in China, “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). Qiao (2018) author of A Brief Introduction to Institutional Review Boards in the United States, China does not have an institutional or a national review board. China has made growth in their protection for patients, but without an ethical review board it has been difficult for countries like China to broaden their research into other countries.

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

The purpose statement of the article I selected is, “The purpose of this study was to calculate incidence, severity, and risk factors of nasal pressure injuries due to nasal continuous positive airway pressure (NCPAP) treatment in newborns” (Dai et al.,2018, pg. 26). Dai et al. (2018) explains that for the NCPAP equipment to work appropriately it must be tightly fitting on the nose. There are nasal prongs that must fit snugly in the nares in order to keep the airway pressure. The snug fitting device increases the risk of skin breakdown and pressure injuries.

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

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

Dai et al. (2018) qualitative research study Nasal Pressure injuries Due to Nasal Continuous Positive Airway Pressure Treatment in Newborns has a research design of prospective observation. This means the research study is to observe, there is no outside intervention to see a change. This study was done to get an understanding of the pressure injuries occurring during the use of nasal continuous positive airway pressure treatment devices. There was not an intervention made to see if the intervention changed the outcome. This study was to monitor and collect data. This information and data collected can be used to make a practice change if needed. These are good resources for better understanding the impact on different patient demographics. This study is controlled and allows for gaining knowledge to provide safer care for infants requiring nasal continuous positive airway pressure treatment.

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

This research article addresses the risk factors and potential harm of using nasal continuous positive airway pressure devices as treatment for respiratory failure in neonates/newborns. Newborns have fragile skin and can easily develop pressure injuries, or skin breakdown. Dai et al. (2018) states “In order to effectively maintain a constant airway pressure, tightly fitting binasal prongs or masks are used. Nevertheless, the forces applied to the nose from use of nasal prongs or nasal masks can lead to a pressure injury” (Dai et al., 2018, pg. 26). Overall, the study was able to obtain multiple different data sets. The study was able to monitor the amount of pressure injuries, the stages of pressure injuries, the results of pressure injuries in different age groups, and the risk of harm dependent on length of use. They were able to determine “nasal pressure injuries are a prevalent complication of NCPAP use, especially in preterm newborns. Our results identified a gestational age of less than 32 weeks and longer use of NCPAP are important factors associated with nasal pressure injuries” (Dai et al., 2018, pg. 26).

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

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 method of data collection started prior to using the nasal continuous positive airway pressure treatment system. A thorough skin assessment was done prior to initiation of the device. At time of placing the positive airway system onto the newborn an additional assessment of skin was done (assessment at time of admission and time of starting respiratory support). Patients did not qualify for the study if they were less than twenty-four hours old, preexisting skin breakdown around the nares, or transferred from other hospitals who had NCPAP treatment for over twenty-four hours. Twice a week the research nurse would collect data. The bedside NICU nurses were doing skin assessments every four-six hours that included assessing the nares under the NCPAP devices. As part of data collection pressure injuries were staged, Dai et al. (2018) used both the National Pressure Ulcer Advisory Panel and the European Pressure Ulcer Advisory Panel to diagnose the pressure injuries in the patients participating in this study.

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?

Dai et al. (2018) had a starting patient pool of 900, after excluding those that did not meet the criteria a total of 429 newborns and neonates participate in this study using nasal pronged continuous positive airway pressure systems. 149 of the 429 patients that required the use of a NCPAP had pressure injuries. 99 of those patients had stage 1 pressure injuries, while 48 were diagnosed with stage 2 pressure injuries. Sadly, two of the patients were diagnosed with deep tissue injuries. The data was slightly surprising related to gestational age and number of pressure injuries. The study found that 10 of the newborns delivered at less than 28 weeks developed pressure injuries. While 72 babies between 28 and 31 weeks developed skin breakdown and pressure injuries. 60 babies between the gestational age of 32 to 36 weeks, and 7 babies that were full term. I found it surprising to read those babies in the 28–31-week range had the highest amount of pressure sores, leads to the question on how many of the babies in the trial were born in the 28–31-week range. The mean days from applying the NCPAP device to the start of a pressure injury was 4.72 days, with stage 2 pressure injuries occurring at a mean of 3.88 days. The data also shows that 80 of the stage one pressure sores did not progress to a stage 2.

I found this data to be very interesting. I think as a nurse it leads to the discussion of how do we prevent pressure injuries from occurring. This is more than frequent assessing; this has to be preventative measures from the beginning.

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

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

Dai et al. (2018) concluded that out of the 429 babies in the study the highest risk for pressure injury related to the use of NCPAP was for the babies that were less than 32 weeks, that required NCPAP for 6 or more days. “Majority of the pressure injuries were stage one (nonblanching erythema), and none required cosmetic surgery to repair full thickness injuries or necrosis” (Dai et al., 2018, pg. 30). Dai et al. did address that preventative dressings and frequent assessment is useful, they recommend collecting further data to better understand the effect and positive outcomes of these preventative measures. Although they recommend further research for efficacy of the preventative dressings and assessments, they still recommend prophylactic treatments. Additional data on specific dressings and preventative measures will support in using the best equipment, this includes continuing to evaluate the different respiratory support equipment. This study validates the importance of evidence based practice in health care.

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

Research is important for all areas of health care. As discussed some above in questions seven. The research team suggested further data on prophylactic measures for pressure injuries. They would like to see what dressings or measures could be taken to prevent the pressure injuries in newborns requiring respiratory support. Overall the research will help WOC nursing provide the safest and highest quality care. To be aware of alternative systems or dressings can help provide safer care. This article makes me think of all the people that are involved in the care and how as a WOC nurse are you able to educate all parties. The providers that are ordering the use of respiratory support systems; do they have a long-term plan, when is the soonest or safest for the infant to have the device removed? Respiratory therapist: what are alternative treatment options, what will the transition options look like, what is the most current practice for respiratory support in these diagnoses, what are the most current devices? Bedside nursing: do they know their supplies/dressing, do they know what to assess? WOCN: What are the current treatment options, what are the best preventative measures?

Science and knowledge is constantly changing, thanks to opportunities for research and studies. As a WOCN it is our job to stay up to date on current practice changes and treatment options. I think that knowing supplies and new devices is important, in the medical field there is always work being done to create something that decreases adverse outcomes. To be up to date on these practices allows patients to receive current, evidence based, and safe quality care.

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

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

References

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