

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.

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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. *Journal of Wound, Ostomy & Continence Nursing*, 47(1), 26–31.
<https://doi.org/10.1097/won.0000000000000604>

The article I have chosen to review is Nasal Pressure Injuries Due to Nasal Continuous Positive Airway Pressure Treatment in Newborns (Dai et al, 2020). I chose to review this study because it is highly relevant and can be easily generalized to my patient population. In my current practice I have witnessed patients who have experience skin related pressure injuries related to the use of a medical device. I work with adult patients. Some are 65 or older, immunosuppressed, have impaired sensory perception and are unable to communicate which makes them all at risk for impaired skin integrity. Different types of medical devices including urinary catheters, oxygen and NG are used by patients and these devices can also cause harm to skin. According to Black et al (2013) “the mere presence of a device is risk for a pressure ulcer” (p. 323). Another rationale I used when selecting this article is that felt it would be easy repeat the steps that this study and receive the same results.

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

I first noticed while reading the abstract of this study that the process involves the collection and analyzation of numerical data. Review of the results section of the abstract documents use of numeric information and statistics when expressing data findings. This tends to be found in a quantitative study and can but can also be found in qualitative studies. The study uses perspective observational design. Which can be found in both qualitative and quantitative studies. This study does not use open ended questions which is something you find with qualitative studies. In addition, this study use statics that can be used to validate the findings. The sample size of the study is 429 newborns. This is considered a larger sample size. In the introduction section when Dai et al, (2020) states that force from a tightly fitting nasal mask can lead to a pressure injury (p. 26). This shows evidence of a cause-and-effect relationship.

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.

Institutional Review Boards (IRBs) are made up of members who are designated to make sure steps are taken to protect human subjects. Their most function to ensure that no harm is done to anyone during the research process and that participants IRB Informed consent is an important part of research because it makes certain that individuals have all the information needed to make an informed choice when choosing to participate in a research study. Participants need to have all the information presented to them and researchers are responsible for presenting it in an ethical manner. We as WOC nurses also have a responsibility to protect patients as stated in provision 9 of The Code which emphasizes that nurses must maintain fairness and integrity (Murphree et al., 2022).

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

In the introduction of the article Dai et al. (2020) cites that the use of tightly fitting CPAP devices in newborns can lead to pressure injuries which is a problem that can lead to pain, infection and damage requiring intervention including surgery (p. 26). Newborns fragile skin they are high risk for skin injury and that limiting duration of device use frame of nasal prong use. The purpose of the research as cited by Dai et al (2020) is to determine the incidence, severity, and risk factors with NCPAP use in newborns in ICU (p.26).

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

This study utilized a prospective observational study design. There we no surveys or questionnaires. Individuals and outcomes were observed.

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

To summarize the literature review, various studies were reported using limited amounts of information. Fischer and colleagues used a standardized classification system from the National Pressure Ulcer Advisory Panel (Dai, et al., 2020). This study included adult patients which may not be easily generalizable to newborns of 32 weeks gestation. Nascimento used a specific type of nasal prong in their study and reported that nasal injury rate was 100% among 147 preterm newborns (Dai, et al., 2020). This finding suggests that maybe a specific type of equipment is to blame. Nascimento classified the nasal injuries as having mild redness, moderate bleeding, and necrosis (Dai, et al., 2020). They did not use the NPUAP classification system or staging.

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 study design is a prospective observational study. The study was conducted in a NICU in a hospital in Xiamen, China (Dai et al., 2020). The studies are completely based on observation. The researcher reviewed the subjects without any kind of manipulation of the surroundings. In this study newborns were examined during placement of NCPAP.

The sample size included 429 newborns who were admitted between March 2017-February 2018 in the NICU. It is noted that the newborns range in weight from extremely low to very low birth weight (Dai et al., 2020). Data collection methods included skin assessment every 4-6 hours of newborn nose for any pressure injury. All observed pressure related injuries that occurred with NCPAP use were recorded. Information included the date of occurrence, severity of skin injury, treatment used and outcomes. The pressure injuries labelled using NPUAP staging system (Dai et al., 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 was pulled out of the electronic medical record anonymously by a computer analyst using record numbers. The type of data collection tool used in this study included the use of an investigator developed tool. Data for NCPAP related injuries was then recorded on an investigator created form which included date of occurrence, injury staging, provided treatment and patient outcomes

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(Dai et al., 2020). The interval specified for data collection was twice a week by the research nurse using different data measures to decide who should be studied. Formulas were used to calculate the incidence of pressure injury once used the number of newborns with pressure injuries divided by the sample size and another the number of pressure injuries divided by the number of days, they were observed x 1000 (Dai et al., 2020). Statistics were used to analyze data and P value noted as being significant (Dai et al., 2020).

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

The results of the study were that between March 20, 2017, to February 28, 2018. During that time 461 patients were treated with NCPAP. The study cites that patients were rejected from the study for various reasons which resulted in a smaller size. Analyzation of the data included the following findings one hundred forty-nine of the newborns treated with NCPAP developed pressure injuries. Ninety patients were noted to have developed stage 1 pressure injuries. Forty-eight newborns were noted to have developed stage 2 pressure injuries and 2 patients developed deep tissue injury (Dai et al.,2020). The study also looked at the incidence of frequency and severity of pressure injuries according to gestational age and found that newborns less than 32 weeks had a significant greater risk of developing a pressure injury. It is also noted that length of stay did not increase risk for developing pressure injury. Also noted is an average of 4.72 days between use of NCPAP and when pressure injury appeared. They were also able to prevent more serous injuries by changing to the use nasal mask when indicated and use of preventative dressing. The strength of the study includes that the methodology used was easy to carry out and to follow. It also showed what they expected to find.

A weakness of the study is that patients may have received more attention due to heightened awareness versus an environment where patients are not undergoing a study. Also noted as a limitation is the use of only type of NCPAP mask which makes one think that maybe the use of this type if equipment may have contributed to skin breakdown.

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

Research is essential to the body of WOC nursing knowledge. Engaging in research is vital for the professional advancement of WOC nurses. The study shows that this is a common occurrence within this fragile patient population and with the use of preventative measures we can attempt to alleviate this problem. This study can also be used to generalize too other patient populations.

Black, J., Alves, P., Brindle, C. T., Dealey, C., Santamaria, N., Call, E., & Clark, M. (2013). Use of wound dressings to enhance prevention of pressure ulcers caused by medical devices. *International Wound Journal*, 12(3), 322–327.
<https://doi.org/10.1111/iwj.12111>

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