

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

Name of student: Sophia Salaita

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.**

For the second week of this course, students were assigned to choose between two articles. The first being focused in the area of wound healing by secondary intention after the removal of drainage tubes. The second being focused in the area of pressure injuries to the nasal region of newborns due to the usage of continuous positive airway pressure. After some thought, I was able to finalize my decision of completing this assignment using the second article. This is due to my lesser knowledge in the care of newborns. In order to strengthen my practice and grow as a nurse, I must branch out into new situations. I do, however, have experience with pressure injuries from a handful of etiologies, including continuous positive airway pressures. Wounds, especially pressure injuries, do not discriminate against any age group. They can happen to any patient under the right circumstances. Newborns are non-verbal and oftentimes unable to assist themselves with any discomforts. This increases their chances of developing these wounds.

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

While performing the initial analysis of this article, it was possible to assess for indicators that suggested whether this writing was a qualitative or quantitative article. The difference between these classifications of studies is primarily the fact that

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

quantitative research is reliant on numbers and solid data, while qualitative is based upon personal observations. Quantitative studies mainly rely on numbered data and measurements, whereas, qualitative studies depend on documentation or one's accounts to conclude how the issue at hand is viewed by society (Hoover, 2021, p.1). Based upon this description, this writing was able to be declared as a quantitative study, as much of the study is based upon a numerical finding and appeared to be scientifically structures. For example, on page 28 of the article, there is a table provided for readers to easily view the data collected regarding the "Demographic and Pertinent Clinical Characteristics (N=429)" (Dai, et. al., 2020, p.28). This increase in emphasis on attention of the numerical data assists in the conclusion that this is a quantitative study. Along with specific data tables, the article also includes an in-depth description of the study and its methods, and results. This is important due to the fact that these are items that are ignored if the study were focused on the personal observations.

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>

Hoover, L. (2021, June 1). *What is qualitative vs. Quantitative Study?*. GCU. <https://www.gcu.edu/blog/doctoral-journey/what-qualitative-vs-quantitative-study#:~:text=As%20qualitative%20and%20quantitative%20studies,think%20or%20respond%20within%20society.>

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.**

Informed consent is a necessity when producing any type of study. Without gaining the correct consents, researchers fail to give participants the right to make the best decisions for themselves with all details of the issue at hand, also called self-autonomy. Informed consent establishes respect for participant's personal autonomy (National Human Genome Research Institution, n.d., p.1). Not only is it ethically important to gain consent, but it is also a requirement to conduct research. While observing this particular study, it became clear that informed consent was gained from the parents and legal guardians of the newborns observed. Not only was consent from the guardians granted, but the study was also approved by the hospital ethics committee, where the study was conducted. "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, p.27). This indicates that the study was conducted in an ethical manner enough to be approved by an ethics committee.

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.

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Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

National Human Genome Research Institution (n.d.). *Why is informed consent required?*. Genome.gov.

<https://www.genome.gov/about-genomics/educational-resources/fact-sheets/why-is-informed-consent-required#:~:text=Informed%20consent%20demonstrates%20respect%20for,important%20ethical%20requirement%20in%20research.>

2. Describe (based on selected research type)

a. Quantitative article: the problem and purpose of the research

While analyzing this article, it became clear that there was a distinct purpose of the research. This purpose was described as calculating incidence, severity, and risk factors for pressure injuries in newborns who are treated with NCPAP. “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., 2021, p.26). This statement was established early on, as it was described in the abstract of the article. Identifying risk factors allows for researchers to be able to recognize specific patients who are at the highest risk for developing these wounds. To be able to identify the incidence and severity of these injuries to the study group, allows for researchers to view how often this issue occurs and to what degree they occur. This information is critical for the development of this particular study.

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.

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3. Describe (based on selected research type)
a. Quantitative article: the research questions

As this article is a research-based literature piece, there must be questions posed after developing a purpose of the study. The questions that arose during the research process include if there is a correlation between the gestational age, gender, birth weight, duration of the use of NCPAP, length of stay within the NICU, and the patients who received mechanical ventilation before having NCPAP applied. This information was clearly stated through a list provided of characteristics that will be examined during the study. “Characteristics Value: Gestational age, Birth weight, NCPAP duration, Length of hospital stay, Male sex, Patients requiring mechanical ventilation before NCPAP” (Dai, et al., 2021, p.28). Through this list provided, one may be able to conclude that the research questions include the correlation of these items to the rate of incidences of pressure injuries to newborns nasal passages. This article is focused thoroughly around the discovery of answering these questions.

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.

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

This article has the declared purpose of identifying the incidence, severity, and risk factors of NICU patients using NCPAP machines. Consent was given by the legal guardians and parents of the participants. The study included 900 babies, with 429 using NCPAP for more than 24 hours. The setting was in Xiamen University, Xiamen, China at the First Affiliated Hospital from March 2017 and February 2018. The data was analyzed using a well-respected software referred to as “SPSS version 22” (Dai, et al., 2021, p. 26). There was a review and approval of all procedure processes by the Ethics Committee of the First Affiliated Hospital of Xiamen University. This assists in providing evidence of credibility within the study conducted to the readers. However, approval was confirmed through the Ethics Committee within the setting of the study. Due to this, approval was not gained by a third party, so therefore, there may be bias within the approval. The consideration of possible bias may minimize the study’s strength sense of credibility and integrity to readers.

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.

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5. Identify (based on selected research type)

- a. Quantitative: the study design, including sample, setting, & data collection methods.**

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

This study contained a handful of different components of the design and set up, such as the sampling, setting, and collection methods. The subjects of this study were 900 newborn babies during the time of March 2017 to February 2018. The setting was listed as neonatal intensive care unit of the First Affiliated Hospital of Xiamen University, Xiamen, China. Due to the purpose posed for this study, the selective group of participants was decreased to those who used NCPAP. “Four hundred sixty-one of these patients (51.2%) were treated with NCPAP; 32 (6.9%) were excluded due to receiving the treatment less than 24 hours, resulting in a final sample size of 429 comprising 5536.7 patient observation days of NCPAP treatments” (Dai, et al., 2021, p.28). This study is to focus on patients who developed pressure sores specifically conjoined with the usage of NCPAP. Based on the research constraints, the number of qualified participants within the sample size diminished from 900 to 429.

Data collection is another component that was assessed. As with many aspects of modern healthcare, this study tracked patient records and progress through electronic medical records via computer engineers. According to the article, “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” (Dai, et al., 2021, p.28). These facts were collected by a research nurse two times a week.

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.

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6. Analyze (based on selected research type)

a. Quantitative: the data collection tool used; is the tool validated?

This study contains a dedicated section regarding analysis of data that was collected throughout the research process. The statistics used included descriptive statistics: weight at birth, gestational age, days of treatment involving NCPAP, and the total of days spent in the neonatal intensive care unit. This is necessary information that is validated through this analysis. The listed tool that was used to do so is the Statistical Package for Social Sciences (SPSS) from Armonk, New York. The version used is registered as 22.0. The tool of SPSS version 22.0 is a highly used and respected software specialized in statistics analysis. “IBM® SPSS® Statistics is the world’s leading statistical software used to solve business and research problems by means of ad-hoc analysis, hypothesis testing, and predictive analytics” (IBM, 2021, p.1). Due to this software being well recognized in the world of statistical data analysis, as well as being a third party to study, it may be determined as a validated tool.

IBM. (2021, May 21). IBM SPSS statistics 22. <https://www.ibm.com/support/pages/downloading-ibm-spss-statistics-22#:~:text=IBM%20SPSS%20Statistics,hypothesis%20testing%2C%20and%20predictive%20analytics>.

7. Summarize (based on selected research type)

a. Quantitative: study results, including strengths & limitations.

Within this quantitative study there are a handful of results that were identified. These items include the results, strengths, and limitations that were identified within the study. As discussed previously, this study was conducted with 900 participants from March

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

2017 to February 2018. Only 429 were treated with NCPAP for over 24 hours. As described in the article, the highest rate of incidences between the participants and nasal pressure injuries had a strong connection to the duration of NCPAP usage and gestational age. “We found that the frequency and severity of nasal pressure injuries were significantly higher in newborns less than 32 weeks of gestational age, and those undergoing NCPAP days more than 6 days” (Dai, et al., 2021, p. 29). The longer the patient endures the pressure of the NCPAP, the higher the chance of developing a pressure injury from this medical device. The younger the patient’s gestational age, the less developed the baby is from the womb, thus less protected to the outside environment. Another matter that requires attention is the strengths and weaknesses of the study. Strengths may include the time range of over a year and larger number of participants of 429. Limitations include the lack of diverse locations of NICU patients observed. “Our study setting was a single NICU setting that used a consistent type of NCPAP prongs and masks, which limits generalizability to other NICU populations using different types of devices” (Dai, et al., 2021, p.30). A wider range of patients in different geographical locations would assist in strengthening the study’s results.

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.

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

Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

This research is important to the body of WOCN knowledge due to the high rates of incidences reported in this study. “One hundred forty-nine (34.7%) of our newborns managed with NCPAP developed nasal pressure injuries” (Dai, et al., 2021, p.28). The addition of any item that may cause pressure to the body holds the potential to cause pressure injuries to patient, even within the nasal passageways. Newborn’s skin is very delicate and vulnerable. Due to this, nearly 35% of these children developed pressure injuries during their use of NCPAP. As certified wound specialists, it is not only a responsibility to treat wounds, but also assist in the decrease of preventable wound, such as pressure injuries. Approximately 95% of pressure injuries are preventable (Model Systems Knowledge Translation Center, n.d., p.1). Prevention methods are critical when to provide the highest level of care for patients at risk for pressure sores. Patient care should be every nurse’s priority. Gaining a certification within an area of specialty simply adds to the nurse’s knowledge in this specific area to better care for one’s patients. WOC nurses are the specialists for these areas, which includes the treatment and prevention of pressure injuries, for their patients.

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>

Model Systems Knowledge Translation Center. (n.d.). *Preventing pressure sores*. Preventing Pressure Sores.

<https://msktc.org/sci/factsheets/preventing-pressure-sores#:~:text=Ninety%2Dfive%20percent%20of%20all,and%20a%20lot%20of%20attention.>

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

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 & Contenance Nursing*, 47(1), 26–31.

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IBM. (2021, May 21). IBM SPSS statistics 22. <https://www.ibm.com/support/pages/downloading-ibm-spss-statistics-22#:~:text=IBM%20SPSS%20Statistics,hypothesis%20testing%2C%20and%20predictive%20analytics.>

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Understanding Research Articles/ Cleveland Clinic WOC Nursing Education

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