

Quantitative and Qualitative Research Article Critique

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The ability to properly critique a research article is considered “one of the fundamental skills of scholarship in any discipline” (Nieswiadomy, 2008, p. 378); this is also true for nursing. Nursing is a science, and as such, it needs to have a firm base in creditable research that is always closely securitized. The two main types of research are quantitative and qualitative. These both differ in the way they test the hypothesis and what information is gathered. These two differing methods also require different approaches to properly critique the research study.

Quantitative Article

The quantitative study I chose to critique is, “Effectiveness of turning with unequal time intervals on the incidence of pressure ulcer lesions” (Vanderwee, Grypdonck, De Bacquer, & Defloor, 2010). This study focused on the use of two different turning schedules on the effects of the reduction of pressure ulcers. The study was carried out in 16 Belgian elder care nursing homes with a population that is at high risk for the development of pressure ulcers. The researches hypothesis was “that patients who were lying for two hours in a lateral position would experience fewer pressure ulcers at the hips than those who were lying for four hours in a lateral position” (Vanderwee, Grypdonck, De Bacquer, & Defloor, 2010, p. 66).

This study used a two-arm randomized controlled trail to study the hypothesis. This was an appropriate choice because of the multiple factors that contribute to the formation of a pressure ulcer. A pressure ulcer is formed by unrelieved pressure on a point of the body for an extended period of time. The length time required is variable, and that is where the contributing factors come in to play to reduce the length of time. This study also took into account the following contributing factors when performing the data analysis; age, sex, body mass index,

Braden score, urinary incontinence, fecal incontinence, sleeping medication, repositioning independently in a chair, slouching in a chair, and spontaneous movements (Vanderwee, Grypdonck, De Bacquer, & Defloor, 2010). This acknowledgement of other factors helps to give creditability to the study.

The researchers were also selective in their choice of participants. The study only included patients who did not have a pressure ulcer at the start of the study, could be repositioned, and were to have a length of stay greater than 3 days (Vanderwee, Grypdonck, De Bacquer, & Defloor, 2010). Their choice of inclusion criteria was important because it demonstrates the researcher's ability to filter out patients that would give the study erroneous data.

In order to prevent bias by misdiagnosing a pressure ulcer, an independent nurse was utilized to also assess the patients in the study. This was a correct precaution on the researcher's part. If the researcher had been the only one to assess the skin, the results of this study would have been questionable due to possible bias. The researcher went farther. Using the Kappa test, the assessments of the researcher to the nursing staff were compared and then the study nurse to that of the nursing staff. The Kappa scores for these two comparisons were .89 and .88 respectively. This high score indicates that the assessors were in agreement in most cases (Vanderwee, Grypdonck, De Bacquer, & Defloor, 2010).

The data for this study was analyzed using computer software called SPSS version 12.0. The researcher also used several other tools to assist in the analysis of the data. The analysis of the data was appropriate to the study, and without the actual raw data a determination of its accuracy is not possible (Vanderwee, Grypdonck, De Bacquer, & Defloor, 2010). The study found that there was not a statistically significant difference in the development of a pressure

ulcer. The researcher used the Fisher's exact test to compare the two groups to arrive at this conclusion.

This study did also have several limitations. The researcher did acknowledge these limitations and attempted to correct for them. The first limitation that was the inability to have the nursing staff blind to what turning schedule was being used on a particular patient. This could have caused nurses to attempt to influence the results of the study. This was controlled by frequent, random audits of compliance with the turning schedule. This study also had a small sample size of only 235 patients but this study could easily be repeated, with little change, for any size of patient population (Vanderwee, Grypdonck, De Bacquer, & Defloor, 2010).

This study is important to nursing because it address one of our long held beliefs about the prevention of pressure ulcers. We are taught that turning every two hours reduces the risk of pressure ulcers. This study was able to show that turning every four hours was just as effective and it also decreased patient complaints about the frequent turning.

Qualitative

The qualitative study I choose to critique is "Nurses' perceptions of causes of medication errors and barriers to reporting" (Ulanimo, O'Leary-Kelley, & Connolly, 2007). This study looked at what bedside nurses felt were the barriers to reporting medication errors, and what lead to the error occurring in the first place. The study went further and also looked at how nurses felt information technology helped to prevent medication errors.

The study was carried out using an established questionnaire so that validity and reliability would not be in question (Ulanimo, O'Leary-Kelley, & Connolly, 2007). This was a correct choice because for this study to have creditably the questionnaire needed be free of bias.

The researcher also included 6 scenarios to gauge the nurse's ability to identify a medication error. It was important to measure this, because if a nurse was not able to properly identify a medication error their reporting of errors could be impacted (Ulanimo, O'Leary-Kelley, & Connolly, 2007).

This study was carried out on a convenience sample of nurses at a single hospital. This is a common practice in nursing research but it also impacts the validity of the study. The hospital this study was conducted at had implemented physician order entry, bar code medication administration, and computer charting. These three technologies have been shown to reduce medication errors in several studies (Ulanimo, O'Leary-Kelley, & Connolly, 2007). Many hospitals have some of these technologies in place but maybe not all three; this would impact the study findings if this study was conducted at a different hospital.

The sample size for this study was also small, with only 25 nurses returning the questionnaire. The researcher does acknowledge this and offers several possible reasons for this. The top reason was fear on the part of the nurses about confidentiality. The researcher was a former manager at the hospital which could have impacted the nurse's perception of the reason for the study. This was demonstrated by 24% of the nurses stating they cannot recall making a medication error (Ulanimo, O'Leary-Kelley, & Connolly, 2007). I found this to be suspicious based on my belief that to err is human, and nurses are human, and even the best nurse makes a medication error.

This study is important because it presents some of the feelings that are likely universal among nurses. As a bedside nurse it is easy to overlook a medication error if it does not cause harm. This study found that also nurses were scared of being looked down on by management

and peers if they reported an error they made (Ulanimo, O'Leary-Kelley, & Connolly, 2007). I found this interesting because it was not something I had considered. This study would be a good tool for management to utilize to increase the proper reporting of medication errors among their nursing staff.

References

Nieswiadomy, R.M. (2007). *Foundations of Nursing Research* (5th Ed.). Upper Saddle River, New Jersey: Prentice Hall.

Vanderwee, K., Grypdonck, M., De Bacquer, D., & Defloor, T. (2007). Effectiveness of turning with unequal time intervals on the incidence of pressure ulcer lesions. *Journal of Advanced Nursing*, 57(1), 59-68.

Ulanimo, V., O'Leary-Kelley, C., & Connolly, P. (2007). Nurses' perceptions of causes of medication errors and barriers to reporting. *Journal of Nursing Care Quality*, 22(1), 28-33.