

Needs Equilibrium: Critically Analyses of Quantitative Research Study

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Introduction:

The purpose of this academic review and critique is to critically analyze the quantitative study article. The title of article is "Effectiveness of the Nursing Methodologies in Pain Management after Major Ambulatory Surgery". For standard research review, an attentive and a careful step by step approach will be used to examine the strengths and weaknesses of the research article. The title of study piques the researchers' interest and conveys the key concepts, methods and variables and it provides accurately description of the research study. The abstract provides the brief overview of the purpose, research problem, methods, results and conclusion.

The Problem:

The researcher clearly outlines the intent of study. The problem is significant to nursing profession as it describes the effectiveness of nursing methodologies and role of nurse in postoperative pain management. It is also significant in a way that preoperative consultation in Spain (22.2%) is low compared to rest of Europe (58.3%). The problem was designed in a way that highlights the researcher's interest. The purpose for conducting the research was explained visibly and it was to explore the effect of nursing counseling during a pre anesthesia consultation to the surgical patients for managing the postoperative pain, identifying the level of satisfaction, and rate of wound complications. The quantitative approach is appropriate for this type of study as the researchers are interested to identify the effectiveness of the phenomenon between two groups so large sample size can provides an appropriate results (Lenth, 2001). Researchers clearly mentioned the different variables of interest the post-operative pain, patients' satisfaction, and surgical wound complications. The problem statement was defined promptly in first lines of both abstract and introduction

and it indicates the nature of inquiry and it was direct rewording of statement of purpose, phrased interrogatively rather than declaratively (Polit & Beck, 2010, p. 153). The both problem and study provides a deep understanding of concept in settings and contributes in performing roles and improving the advanced nursing practices. There was no description of assumptions but limitations were defined. Limitation of the study is that control group came from older hospital having longer waiting list, and they got individual rooms and more modern facilities at Benalmadena Comprehensive Hospital (BCH) which results in increased satisfaction level.

Review of Literature:

The literature review provided a context for the study. The review was comprehensive as it includes all elements and aspects of study, slightly logical and have relevancy to the problem. It was well used to frame the problem and became basis for the findings of study. Researchers mostly include studies after 2000 exception, three studies were of 1995, 1971, and 1963 and four of them were recent studies of after 2010 and about 20 studies were included in study. The review includes both theoretical and empirical data. Review includes diverse studies of different published times which provide adequate knowledge to guide the study. The review was paraphrased adequately, provides systematic, and well organized synthesis of the current information. It neither includes the series of quotes nor a series of abstracts (Polit & Beck, 2010, p. 185). This review delivers a good knowledge on topic that can guide to conduct a new study.

Protection of Human Right:

There was no any explanation that study was aimed to minimize the risk and maximize the benefits to participants. Research approval and ethical concerns are important and prominent in

nursing research (Polit & Beck, 2010, p. 118) but researchers' did not mention about the approval from any institutional review board/ research ethical committee. However, researchers took permission for conducting this study from the Directors of BCH, Rafael Toscano-Mendez and Encarnacion Ceullar-Obispo. In the section of acknowledgment researchers mentioned that they took permission from the participants. There was no indication that informed consent was signed from participants of the study but researcher usually document the informed consent by having a participants sign on consent form (Polit & Beck, 2010, p. 127). There was no evidence for deception and intimidation was found. The researchers' did not define that moral principles, confidentiality was followed and individual cannot be identified.

Theoretical/ Conceptual framework:

Researcher does not include any conceptual and theoretical framework in the study. Though researcher did not includes any framework if researcher use the framework it can better give structure to their study because framework is the conceptual underpinning of the study and guides the study (Polit & Beck, 2010, p. 198). Theoretical framework lean towards to better structuring the quasi experimental study and it is to be clearly identified and described and involved in quasi experimental and experimental studies (Burns & Groove, 1999).

Hypothesis:

The researcher ceremoniously stated the hypothesis that the use of nursing methods in preoperative consultation improves the patients' satisfaction and facilitates the post-operative management. Hypothesis became the base of study, it stream from the problem statement and direct the study. Researchers stated only one hypothesis to guide the study and which plainly shows the relationship between two variables (Boswell & Cannon, 2012 p. 135). Hypothesis language clearly stipulates and predicates the relationship that exists between variables.

Sampling:

According to Burns and Grove (2010) population is entire aggregation of researcher interest and researcher specifies the characteristics of population that delimit the study population from the rest. The researchers did not clearly specify the target population of interest but researchers included the patients of Major Ambulatory Service (M.A.S) at BCH. The total numbers of 380 participants are included in the study and control group consists of 185 patients and interventional group consists of 195 patients. The sampling selection criterion was settled through inclusion and exclusion criteria. The sample selection was defined that control groups are the patients from the waiting list of Costa del Sol Hospital and treated at BCH and intervention group are the patients on waiting list of BCH having identical pathologies.

The sampling method is appropriate for the quasi experimental design as it involves intervention and control group. However quasi experimental design lacks randomization so sampling method used by researchers appropriate as it shows the signature

of true experiment (Polit & Beck, 2010, p. 232) and no evidence of any potential sample bias described. Sample size included in the study was sufficient to provide the rich amount of information. However, this study results cannot be generalized because it includes an identical group of participants of similar settings. Representative sample was differentiated from rest of population through inclusion and exclusion criteria and sampling error was decreased through this setting in order to obtain the data from particular sample (Boswell & Cannon, 2012).

Research Design:

Researchers conducted level III, cause and effect study, and used quantitative quasi experimental design for the study. It is an appropriate design for this type of study as quasi experiment aim to demonstrate causality between intervention and outcome versus control groups (Eliopoulos et al., 2004). The Quasi experimental design is appropriate as it involves intervention and control group as it shows the signature of true experiment (Polit & Beck, 2010, p.232). Researchers want to identify the effectiveness of nursing methodologies for managing postoperative pain and indentifying the level of satisfaction among two different groups one with counseling, interventional group and other without counseling, control group (Boswell & Cannon, 2012) therefore quasi experimental design is suitable for this study. Researchers defined the extraneous variable wound complication with results in abstract but did not discussed in hypothesis, discussion and results. Therefore, we cannot implicitly and explicitly express that does unwanted variables potentially affects the study. Sufficient information like limitations, confounding factor, unwanted variables was given to permit the replication of the study.

Data Collection:

Researcher used the visual analog scale (VAS) for measuring the post operative pain of the participants. Additionally, another indicator was used to measure the postoperative management that is need of rescue analgesia. Researchers did not mention the scale of measurement used for identifying the level of satisfaction of patients. Researcher did not given any rationale for selection of tool but we can infer that VAS is international acceptable scale for measuring pain which provides accurate measures and is congruent with the research hypothesis (Polit & Beck, 2010, p. 348). Though VAS is a valid international tool but researchers did not mention the reliability or validity of tool in the context of Spain and reliability and validity are important for the consistency, and accuracy measures (Heale & Twycross, 2015). Hence, we cannot infer that the results are sufficient to indicate their use.

Quantitative analysis:

Researchers did not enlighten the method of analysis used to direct the study therefore we cannot conclude that analysis method is acceptable with the design of the study. Researcher not given clue about statistical test applied to interpret the data and obtain results but statistical analysis of data enable the researchers to organize, interpret and communicate the information and without statistical procedures the quantitative data seems to be chaotic mass of

numbers (Polit & Beck, 2010, p. 392). Statistical result presented clearly in both the text and numerical forms. The results of analysis was given in percentages and represented through p-value and inferential statistics is to be used for analysis of level III cause and effect study but researchers did mentioned which inferential statistics was used to obtain the results (Polit & Beck, 2010, p. 409). There was no any graphic representation in the study.

Conclusion and Recommendation:

The results of data analysis clearly explain in reference to research problem and hypothesis. From my view one cannot generalize these finding because reliability and validity of measures in the context, and method for identifying the satisfaction was not mentioned. From my view the results of study cannot be applicable in our context because we have different protocols and different population with different settings. The potential benefits of the findings are beneficial but develop the potential bias and cannot be generalized due to control group which includes all referred patients. Researchers did not explain the recommendation, and my appraisal for the study is that large volume of rich data was obtained from the study and the results provided a significant amount of information. This study also high spot my thinking that

nurse can be key role player in managing the post-operative pain and can increase satisfaction of patients, and can perform parallel role in healthcare setting like anesthetics and others.

References:

1. Boswell, C., & Cannon, S. (2012). [Introduction to Nursing Research. Jones & Bartlett Publishers.](#)
2. Burns, N., & Grove, S. K. (2010). [Understanding Nursing Research: Building an Evidence-Based Practice. Elsevier Health Sciences.](#)
3. Eliopoulos, G. M., Harris, A. D., Bradham, D. D., Baumgarten, M., Zuckerman, I. H., Fink, J. C., & Perencevich, E. N. (2004). [The use and interpretation of quasi-experimental studies in infectious diseases. Clinical Infectious Diseases, 38\(11\), 1586-1591.](#)
4. Heale, R., & Twycross, A. (2015). [Validity and reliability in quantitative studies. Evidence Based Nursing, 18\(3\), 66-67.](#)
5. Lenth, R. V. (2001). [Some practical guidelines for effective sample size determination. The American Statistician, 55\(3\), 187-193.](#)