Quantitative Research Critique

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**Introduction**

The critiquing of quantitative research is anchored on appraising strengths and limitation of a piece of literature to establish its credibility as well as applicability into practice. It should be emphasized that a critique doesn't necessarily seek the limitations of the study but also provides a thorough evaluation of its strengths and reliability in the nursing field. By all means, the critique should not be a disparagement of the researcher's capacity to conduct a quantitative study (Bryman, 2017). In critiquing quantitative research, it is important to ensure that the significant tools that ask relevant inquiries that would enable one to determine the degree through which the approaches that inform quantitative research were followed efficiently. Nonetheless, there are specific steps that bear more weight than others which compels one to carefully select the most probable tools for exploring a particular piece of research. This essay follows a critique of a quantitative research article by Ferreira, Vicente Duarte & Chaves (2015) that explores the attitudes of women with infertility regarding voluntary interruption of pregnancy.

1. **Problem and Purpose**

The study by Ferreira, Vicente Duarte & Chaves (2015), focuses on the quality of life for women living with infertility. Primarily, the authors clearly state the problem by revealing to the readers that procreation and the will to start a family are pillars of quality of life. For this reason, they reveal that emotional as well as marital impacts have a notable influence on pregnancy failure. With the comprehensive statement of the problem, the authors reveal that the purpose of their study is to determine the various factors that impact the quality of life in an effort to establish whether socio-demographic variables influence the quality of life for women with infertility as well as authenticate that the impact of contextual variables that constitute infertility on women's quality of life.

The relationship between the independent and dependent variable is clearly established in the study. Primarily, the researchers clearly establish the independent variables as socio-demographic aspects that influence women's attitudes towards voluntary interruption of pregnancy, obstetrics aspects, women self-esteem as well as family functioning, satisfaction as well as social support with marital life. On the other hand, the dependent variable that is influenced by these independent variables includes the women's attitude towards voluntary interruption of pregnancy. Consequently, the purpose of the study identified earlier has significance in nursing as it shows that the findings of research can be utilized to inform obstetric care for women with infertility thereby enhancing the quality of care as well as their overall satisfaction to care. Furthermore, the significance in nursing can be established through the purpose of the study as the findings can be used to change the attitude and perception of women with infertility regarding voluntary pregnancy interruption further improving their quality of life.

**Method**

**B. Research design**

To ensure that they collected reliable and valid findings, the researcher employed a rigorous study design. Essentially, Ferreira et al., (2015) used a non-experimental, quantitative, descriptive, correlational and explanatory study which was appropriate given that they intended to examine and determine the attitudes as well as the perception of women with infertility towards voluntary pregnancy interruption. This assertion is anchored on the fact that the study enables researchers to effectively observe as well as describe the behavior of the participants without influencing it. As a descriptive study, it is evident that the researchers ensured an appropriate comparison among the latent variables identified earlier to improve the interpretability of findings. On the other hand, the number of data collection points revolved around family functioning, satisfaction in areas of marriage, satisfaction with social support, self-esteem, obstetric history of women among other factors that were indeed appropriate for realizing the objective of the study. The study design used went an extra mile towards minimizing threats to the internal and external validity due to the fact that it considered and omitted aspects that undermine internal validity such as maturation and history. On the other hand, the design minimized attrition given that the researchers did not record any noncompliance or even withdrawal of participants from the study. Given that the study design is a non-experimental design encompassing a descriptive, correlation and explanatory, the researchers avoided the Hawthorne effect as the researchers did not manipulate the latent variables or the non-randomized sample. It also minimized biases to the external validity through the consideration of the impact of the sample characteristics as well as the characteristics of the study setting on the findings.

**C. Population and Sample**

Indeed, the population was identified and described sufficiently as the researchers reveal that the study is based on women diagnosed with infertility. More significantly, the sample of 101 women with a diagnosis of infertility is also described sufficiently as the researchers provide their demographic data such as their ages and ethnicity, occupation, educational background, religious affiliation, marital status as well as their obstetric history. For instance, the researchers reveal that the ages of the participants revolved around 16 to 49 years include their average age which is described as 29.09 years and that all the participants were virtually Caucasians and 85% belong to the Catholic religion.

While every sampling technique has its strengths and weaknesses, the non-probability sampling technique employed by the researchers was not appropriate for improving the sample’s representativeness. According to Lesko et al., (2017), using non-randomized sampling includes recruiting subjects in a non-probability manner which shows that the participants do not have a fair or equal chance of being selected. For this reason, the non-probability sampling did not enhance the sample’s representativeness given that they didn’t have an equal opportunity of being recruited. With this revelation, it can be affirmed that the sampling technique failed to minimize the selection bias. In regards to the effectiveness of the sample size, it can be affirmed that the sample size of 101 women with infertility was adequate for the quantitative study. According to Bryman (2017), the minimum number of participants for a quantitative study is 100 participants for a large population. Therefore, although a G-power analysis is not conducted the researchers used an adequate sample size for conducting the non-experimental research.

**D. Data Collection and Measurement**

Indeed, the operational, as well as conceptual descriptions, are congruent and major variables were comprehensively operationalized through questionnaires that assessed self-esteem, family functioning, evaluated socio-demographic characteristics, satisfaction with married life as well as social support and obstetric history. Moreover, the researchers go a long way to describe the instrument used in the study. These instruments include Scale for evaluation of family functioning Self Esteem Scale, Scale of Satisfaction with Social Support, Scale for evaluation of satisfaction with marital life as well as the scale of Attitudes of expectant women to the interruption of pregnancy. Therefore, given the nature of the study, it can be affirmed that these instruments were good choices for realizing the study's purpose following the fact they considered the population and assesses all relevant latent variables. Although the researchers don't describe the reliability of the study, it can be inferred from the study. Ideally, the reliability of these particular instruments can be inferred from the fact that they have established stability in regards to measures, internal consistency as well as interrater. Moreover, the reliability of the instrument can be inferred from the usability of the instruments given their ease when it came to being administered to participants and easy interpretation by both participants and researchers. However, the validity of the instruments used was undermined by the sampling technique used. Given that the researchers used a non-randomized convenience sample, it undermined the external validity of the instruments as the sample was not an accurate representation of the entire population of women with infertility.

**E. Procedures**

Although the intervention of the study is not explicitly described given that it is based on the development of a predictor scale for quality of life among women with infertility, it can be inferred from the study. Primarily, the researchers set out to authenticate that the latent variables identified earlier can be utilized in determining or predicting the quality of life for these women. The intervention was implemented efficiently through being incorporated into the questionnaires thereby ensuring that every hypothesized predictor was considered. According to Bryman (2017), the fidelity of intervention is established when the treatment is administered as intended. Therefore, it can be argued that the fidelity of the intervention was compromised by the lack of a randomized sample given that the fidelity of an approach is established through its external validity in regards to its generalizability to a larger sample.

On the token of data collection, the researchers' use of questionnaires went an extra mile towards minimizing bias. This stipulation is based on the fact that the questionnaires have no Hawthorne effect risk which is associated with most observational means of data collection. Given that the study is descriptive in nature, the researchers did not interfere with the participants thereby reducing the Hawthorne effect which comes along when participants are aware that they are being observed. Therefore, this attributed to the study participants having the opportunity to explain themselves effectively. By all means, the staff that redistributed the questionnaires for the researchers to gather meaningful data were well trained as they were oriented to ensure that they did not interfere with the study in any way.

**Results**

**F. Data analysis**

It should be emphasized that researchers used statistical analysis to assess every hypothesis. The researchers employ statistical in testing the self-esteem, family functioning, evaluated socio-demographic characteristics, satisfaction with married life as well as social support and obstetric history thereby establishing the statistical significance. Although the researchers explain the statistical significance of each hypothesized latent variable, they do not discuss the analytical tool used. As a result, it becomes difficult to discern if they used the best analytical tool to control the confounding variables. Nonetheless, as the researchers reveal that the reason for failing to use an analytical revolved around the lack of an assessment tool that is designed to assess the women's Attitude towards the voluntary interruption for pregnancy which led to the creation of a scale for this purpose. For this reason, the researcher managed to control confounding variables by employing restrictions in their non-randomized sampling thereby ensuring that participants with a certain value of confounding variables were not recruited. Therefore, regardless of the researchers use a non-probability convenience sampling, the data analysis method used enabled them to control the confounding variables. Ultimately, it is clear that the researchers supported the hypotheses of the study through determining the p values for each variable to authenticate their significance in predicting the attitude of women towards voluntary interruption of pregnancy. With the statistical significance of each hypothesized variable comprehensively outlined, it can be argued that the hypotheses were clearly supported.

**G. Findings**

As established earlier, the information regarding the statistical significance was clearly provided in the conclusion section of the study. Primarily, the researcher accomplishes this through determining the p values for each latent variable, for instance, self-esteem was identified to have a statistical significance of p = 0.001, family functioning had a significance of P = 0.007, socio-demographic characteristics had a statistical significance of 0.001 , the significance of satisfaction with married life lies at P = 0.001 while social support had a significance of p = 0.014 and obstetric history at p = 0.001. Although the information about effect size and the precision effect is not explicitly presented it can be inferred from the study. Miočević et al., (2018) contends that the effect size is determined through assessing the correlation among variables. For this reason, the researchers present the effect size by determining the statistical differences among the variables to assess the predictability of the latent variables. In essence, the researchers use to determine the effect size by outlining the confidence level between the latent variables to express the precision as well as uncertainties correlated with the use of non-probability convenience sample. In the probability statistics, the researchers used the confidence level established for each hypothesized latent variable to determine how the convenient sampling technique can generate a confidence interval that is inclusive of the actual population parameter (Li et al., 2016). Through determining the effect size as well as the precision of measure the researchers managed to adequately wrap up the study’s findings further determining the most probable latent variables that can be employed in predicting the quality of life for women with infertility.

**H. Summary**

**Assessment**

As established earlier, the major limitation of the study revolves around the undermined generalizability of findings to a larger population due to the use of a non-probability convenience sampling. However, the study findings appear to be valid given the strengths of the study and the researchers’ ability to present the findings in a coherent and clear manner. Furthermore, the researchers discuss all primary findings in addition to providing a comprehensive interpretation of the results. Moreover, the value and truth of the findings can be established through the fact that they are discussed within evidence drawn from preliminary research. Moreover, the value of the research findings is established through the fact that they expound on the phenomenon explored by preliminary research in addition to exploring the gaps and inconsistencies of prior literature. For instance, in the review of the literature, the researchers explore literature with inconsistencies on the particular social aspects that impact the quality of life for women with infertility and ensures that these research gaps are explored and discussed in the findings.

Given the comprehensive evaluation of the study’s elements, there are several ways through which the findings can influence nursing practice. Primarily, the social and psychosocial effects of infertility on women with infertility is still untapped particularly when it comes to midwifery and nursing literature. For this reason, the findings will be used to develop screening tools for women with infertility who are prone to adverse psychological and emotional consequences. With such a screening tool, midwifery and nursing practice would be effectuated thereby establishing quality and safe care. Moreover, the findings can be used in nursing practice to enhance quality care particularly in initiating a meaningful connection between individual patients with infertility and their family members. More significantly, the findings can be employed in nursing practice to inform education of patient about the best way to deal with their situation as well as the proper therapeutic approaches for dealing with psychosocial effects of infertility that reduce the quality of life. The findings can also inform the counseling of cancer patients who are prone to infertility to preserve their fertility options and how to effectively address the situation.

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