Quantitative Critique

Kovner, C. T., Brewer, C. S. Fairchild, S. Poornima, S. Kim, H. & Djukic, M. (2007). Newly
licensed RNs' characteristics, work attitudes and intentions to work. *AJN,* 107(9). 58-65.

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Title

The title of this research report first states the population and then mentions the key variables of characteristics, work attitudes and intentions to work. By reading the title, one can understand what the research report entails. This title was well conceived by the author.

Abstract

The abstract of this article is divided into sub-sections, including; objective, methods, results, conclusions and keywords. The objective is stated clearly, which is to understand new RNs and their attitudes better. The methods are listed clearly which include mailing surveys to 36 states/districts. The qualifications to be included in the study are listed as well. This section gives the reader a clear understanding of how the author conducted the study. The results section highlights the findings from the study. The results are intriguing and make the reader (or at least myself) want to continue reading the article. Also stated in this section is more information about the population, which is the educational level of the RNs. The conclusions are listed along with possible solutions to increase retention. The abstract overall is clear and comprehensive.

Introduction

"The introduction sets the stage for a description of what the researcher did and what was learned" (Polit and Beck, p. 72).   In this article, we are given a good background description of what the problem is (new RN turnover) with supporting data. The article addresses the fact that more young people are choosing nursing as a career which will help ease the nursing shortage. Although the shortage will be lessened it will not be totally solved therefore determining new RNs attitudes' towards work is important to promote retention. This is an excellent nursing research topic about a real and current problem which will bring us closer to a solution. The gap

in the literature is noted regarding national turnover rates for new RNs which is a good reason to choose this topic as a research study. The introduction goes on the list the findings from another study related to factors which reduce new RN turnover rates. This section becomes somewhat confusing and does not seem to "flow" with the rest of the introduction. It almost serves to decrease the importance the current research study. The authors are studying, "how long newly licensed RNs stay in nursing positions or why they leave" (pg. 59). The article they chose to mention in their report essentially answers why the leave, by stating what reduced turnover rates. It also states that, "the complexity of the tasks was overwhelming," (pg. 60) which continues to answer one of their proposed research questions. Perhaps the authors could have mentioned the previous studies and then emphasized why their current study is still important and needed. Also, because the authors want to "describe" newly licensed RNs and their "feelings", a mixed study would have been more appropriate. The quantitative method is appropriate in determining the rate of turnover in the second year. Overall, this segment could have been worded more directly.

The research questions are described in the last paragraph of the introduction. However, no hypotheses are mentioned. This is justified because a hypothesis regarding the specific rate of turnover would be inappropriate. The first part of the question is worded clearly, however as stated above, it seems to be more of a qualitative question rather than quantitative. The second component of the question, which is the estimation of turnover in the second year is stated clearly. We know that this will be an ongoing study and the researchers will need to collect more data in the following years to answer the question. This component of the question is consistent with the quantitative framework.

The key concepts are not defined. However, there is mention of using a three wave study to analyze the data to estimate the turnover of new RNs. This gives the reader a clue as to how the study will be conducted. One of the study's goals is to "describe newly licensed RNs" so this is not defined in the introduction. The other key concepts are not very well defined in this section. Perhaps the authors should have stated these explicitly.

Method

The appropriate procedures used to safeguard participants were not explicitly listed; however the method of data collection (mailed survey) is relatively unobtrusive to the participant. Participants' names were not used in the study. Their names and mailing addresses were obtained by the researchers from the state board of nursing but it is doubtful these were used in any personal way after the completion of the study. If someone found these methods inappropriate or did not wish to participate, they could simply not return the survey. It is not stated if the study was subject to external review.

The research design of this project appears to be adequate for the purpose of the research. Wave one is the only aspect of the study being analyzed in this report, therefore no comparisons will be made. The data was analyzed, "using a cross sectional, two-stage design, with a randomly selected sample of newly licensed RNs nested within 51 randomly selected Metropolitan Statistical Areas (MSAs) and nine rural areas in 35 states and the District of Columbia, for a total of 60 sites" (pg. 60). This gives the reader a good idea about the population being studied. Due to the fact that this study is ongoing and will follow the RNs into the next year, comparing the results will give good insight to nurse retention and turnover. The sampling design used made, "sampling probabilities equal across the different sites" (pg. 60). This is

valuable because nursing in metropolitan areas may be more challenging for new nurses rather than rural nurses or vice versa. Sampling too much in one area could have skewed the data. Also, before the survey was mailed, it was reviewed for potential biases by a national advisory group. The number of data points is not listed. However, it is mentioned that the survey was 16 pages. This fact leads the reader to believe that the survey was in-depth and many data points should have been analyzed. It is not stated if blinding was used. The response rate for the surveys was 56% overall. This varied in different MSAs. Because this was the initial mailing, the attrition rate is low. If these respondents to not chose to follow up with the researchers in the second wave of their study, this could pose a problem of bias and increase attrition.

The population and sample size are described in excessive detail. Perhaps it is because I am an amateur researcher but I would have preferred some information on the components of the survey rather than information about response rate. This section is difficult to read and could have been summarized more succinctly. Although it is difficult to interpret, it seems that the authors have eliminated any biases in choosing the sample size. One example of a great idea they authors had was to differentiate between newly licensed RNs by examination as opposed to newly licensed RNs in that MSA (which means they could have been a nurse for a long time). The survey also had a question which asked if you were a new RN, if not you were asked to stop the survey and return to sender. The researchers worked very hard to eliminate bias in the sample size and were successful. The sample size was significantly reduced from the original mailing list. 14,512 surveys were mailed and only 3,266 were eligible to be included in the study or returned the survey. It was wise for the researchers to mail such a large amount of surveys at the onset of the project because this gave them an appropriate sample size in the end. It is not mentioned if power analysis was used.

The study has defined the conceptual definitions and the operational definitions, although they are a bit confusing. One could argue that conceptual definitions such as "Newly Licensed RNs" have been explained. Operational definitions such as turnover, characteristics, work attitudes and intentions to work are not described nor do we know how these will be measured. The study does mention that data was gathered in four areas which include; individual characteristics, work setting, attitudes toward work and personal life and perceptions of job opportunities. Perhaps these are the ways the researchers will collect data and measure such definitions. To increase clarity, it would be beneficial to state these definitions. The authors have not given the reader much insight as to how they are measuring the key variables, although we know it is in survey form. As long as the survey is well written and gives participants a chance to fully describe their feelings, this should be an acceptable method of data collection. If the researchers wanted to achieve a richer description, a better method of data collection would be interviews. The data collection methods mentioned describe in detail the development of the survey, response rate, how people were selected to receive the survey, review of the survey, etc. These methods used were well thought out and will give high quality data that is reliable and valid.

The intervention in this study is the dissemination of a survey to the 51 MSAs. The article explains that the survey was based on a specific survey design and includes the size and format. The participants selected to participate in the study were mailed a copy of the survey. Those who did not respond were subject to multiple mailings of the survey. Therefore, it seems as though most participants selected received the survey and it was properly implemented. The survey was standardized and each survey included 5$ for the participant. The monetary incentive should not have influenced anyone negatively or contributed to bias, being a modest

amount of money. It is not noted whether the staff that collected the data was appropriately

trained. The report mentions a pilot test was performed before the study was conducted. The

pilot test used a much smaller sample size to mimic the study. "In intervention research, the

pilot study is a test not only of the methods of conducting the research but also of the

intervention itself, providing opportunities for refining and improving it" (Polit and Beck, p.

214). This helps the reader know that the survey was properly implemented and was tested

before the onset of the study.

Results

The hypotheses were not listed explicitly in the beginning of the research report. The

report did say that, "the study aims to describe newly licensed RNs, their first work settings, and

their feelings about their job." In the results section the participants were described based on

ethnic background, educational status, and work environment. On page 64, there is a full page

chart which describes "newly licensed RNs attitudes toward work." The following pages include

charts entitled, "personal characteristics of all newly licensed RNs" and "work plans of working

newly licensed RNs". The titles closely match what the researchers sought out to find in the

beginning of the study. It seems as though the appropriate statistical methods were used to

analyze the data. Each question was grouped into a sub-category of positive affectivity, family-

work conflict, etc. Like questions were measured in the same categories. Responses of subjects

were measured on a 1-5 scale, one being strongly disagree/very difficult and 5 being strongly

agree. The mean response was measured and reported in the charts. This is a simple,

appropriate and direct method of measuring the variables.

The method of analysis is an appropriate choice for this study. There is no chance for extraneous variables to interfere with the study because of the precise survey questions. The only data being measured is on the survey. Also, the selection of participants helps to eliminate extraneous variables. There may have been a different thought process or feelings about retention for nurses who have worked for three years, but they have been eliminated from this study.

There is no room for type I or type II errors in this study. The method of data analysis is straight-forward, there is no room for different interpretations on the part of the researcher. Percentages are hard values as well as answering a survey on a 1-5 scale, the researcher cannot interpret an answer of a 5 as something other than a 5.

Analyses were not performed using the intention to treat approach. Those who were mailed the survey were not considered in the study, only those who returned the survey. Perhaps when the researchers perform wave 2 of the study, the intention to treat principle will become more applicable.

There are many tables in the study, which clearly outlines the findings of the study. These findings are reported in a way that could be used for meta-analysis. These findings could be incorporated into another study to help prove a similar hypothesis. The results of this study could be considered by hospital management to assist in improving new RN retention.

Discussion

In the discussion section, all of the findings from the study are discussed within the original framework. The reasons why new RNs may have high turnover rates is discussed in concordance with research findings. The study limitations are listed at the bottom of page 68.

They include, the self-reporting nature of the survey, and small sample sizes for subpopulations. While they state that some RNs may not have fully explained themselves on the survey, or wrote what they thought the researchers wanted to hear, the authors believe the study can still be generalized to all new RNs working in the US. Although the authors believe this to be true, the findings of this study should only be applied to all new RNs working in acute care settings in the United States. The author mentions that in subgroups of new RNs working in occupational health or non hospital settings, findings cannot be generalized due to small sample size. The data found in this study closely matches with data collected from the NCSBN study, which studied *all* new RNs in the U.S. This shows that even though the study did not question every new RN in the U.S., the sample size was large and diverse enough that the results are representative to the entire U.S. population.

Global Issues

The report was organized well, especially in respect to the results section. The charts used and other methods used to reveal the results were very clear and detailed. The introduction could have been worded less ambiguously. Additionally, as stated before, the methods and statistics section could have included less information about developing the survey and more information about what was actually on the survey. Overall the article is sufficiently detailed for critical analysis. The findings were displayed in such a way that the average practicing RN could read this section and gain a good understanding about what is being discussed. These findings are also useful to the nurse. The methods section could only be interpreted by a master statistician. Although it was challenging to interpret, I have confidence in the truth value of the results. Being a relatively new RN myself, the average response of the sample appears to be logical and appropriate. In reading the article, one can tell that these are expert researchers. The

use of statistical methods, survey development and population sampling exhibit excellent

thinking that comes with experience. This enhances confidence of the findings in the reader.

The findings of this study could most definitely help improve new RN retention. Many members

of my cohort left their jobs shortly after starting due to changing or management and perceived

lack of support. The increase in support of new RNs could save institutions thousands of dollars

in training costs.

References

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