Regulatory and accreditation

Quantitative Research Article Critique Sandra M. Smith NUR/518 February, 26, 2012 Veta Massey Quantitative Research Article Critique Kalisch, B. J. , & Lee, K. (2011). Nurse Staffing Levels and Teamwork: A Cross-Sectional Study of Patient Care Units in Acute Care Hospitals. Journal ofNursingScholarship, 43(1), 82-88. Introduction The purpose of this study is to explore the current research data and use of the Nurse Teamwork Survey to see if nurse staffing levels predicts teamwork. The importance of teamwork is to achieve a higher level of patient safety, quality of care, job satisfaction, and decrease turnover.

A cross-sectional descriptive design was used with a 2, 545 nursing staff on 52 units delivering patient care, in four different hospitals among the Mid-West. The relevance of the study is to show that there is an association between quality, safe care, and teamwork which also requires safe staffing (Kalisch & Lee, 2011) The title of the article suggests the main variables and the population in the study. The abstract concisely and clearly summarize the main problem, method, and results of the study. The problem identified is a lack of understanding between the relationship of workload, teamwork, and level of staffing.

Literature review The literature review is up- to -date and focused mostly on primary sources. Dates of the literature review range from 1994- 2009. Only one review studied was over 10 years and six were in the past five years. The review provides a range of comparisons between teamwork and job satisfaction, mortality rate, interpersonal skills, and quality of care. What is known is that a higher level of teamwork in the intensive care units was found to be related to a decrease in mortality rates (Kalisch & Lee, 2011).

Also, a decrease in vacancy rates, and staff turnover was associated with higher level of teamwork.

Brewer (2006) showed that" improved teamwork found a significant decrease in patient falls. " The literature review provides a solid base for this study. What is unknown is the relationship between workload, staffing levels, and teamwork. Framework The study illustrates a " conceptual framework which postulates that staffing levels predict teamwork when there is control of the acuity(CMI) of the patients on the units, the size of the hospital and the nurse staffing levels(nurse staffing included RN's, LPN's, NA's, and unit secretaries)" (Kalisch & Lee, 2009, p. 3). There is a conceptual map, which identifies the variables and relationship that is simple and understandable. The framework was based on the outcome of the literature review and the effects that staffing levels had on teamwork. The framework does identify the relationships between teamwork and staffing levels to patient outcomes. " The framework relates to the body of nursing knowledge in that patient safety and patient perception of care delivered in held in high esteem for nurses" (Kalisch & Lee, 2011, p. 83).

The conceptual framework identified the meaning of teamwork by using the Salas, Sims, and Burke (2005) study that identified five important elements of teamwork (trust, team orientation, back up, shared mental model, and teamleadership). Using this conceptual framework its basic foundation, the Nursing Teamwork Survey (NTS) was developed and tested to be used for the psychometric elements. This testing resulted in identifying five different elements of the nursing team that was descriptive. The research questions

proposed where asfollows: “ By controlling the CMI and size of the hospital, does the level of staffing predict nursing teamwork?

By controlling hospital size and CMI, does the level of staffing predict subscales of teamwork (trust, team orientation, back up shared mental model, and team leadership)” (Kalisch & Lee, 2011, p. 83)? The aim of the research questions was appropriate to the study on that they identified the relationship between teamwork and staffing levels. Method The study (Kalisch & Lee, 2011) used a descriptive, cross-sectional design and an appropriate sample was used. “ The setting was four hospitals within the Midwest of the United. Sampling characteristics were 60% over the age of 35.

The majority of the sample were female (89%) and RN’s (70%), and the majority (74%) had at least 2 years experience” (Kalisch & Lee, 2011, p. 83). The sample group was identified and described and sufficient in size and character. The size of the hospitals were between 300 -900 beds. All units were eligible for inclusion. A total of 52 beds was the study sample. The sampling staff made up 2, 545 respondents. 1, 741 were RN’s, 41 were LPN’s, 502 were NA’s, and 191 were unit secretaries. The sample groups were appropriately identified as pertinent to the study question.

The NTS was used in this study and was intended to measure nursing teamwork in the inpatient care setting. The Bartlett test was used to indicate the correlation matrix that showed it not to be an identity matrix. The Kaiser-Meyer-Olkin measured the sample adequacy. In this study it was determined to be excellent at (0. 961). Confirmatory factor analysis also showed that the team work model of five factors fit the data well. A comparative fit index

model was 0. 884 with a root mean square error of approximation to be 0. 055. The test and retest reliability was good at 0. 92.

The consistency of the survey showed to be 0. 94 with co-efficient ranging from 0. 74-0. 85. The results of these tests showed a similarity in responses of staff members on the same unit (Kalisch & Lee, 2011). The NTS used was a questionnaire. It contains 33 questions with a Likert-type scaling system. This survey was generated by the literature review and from focus groups with staff members. The staff members are dependent variables within the study, although the hospital size and CMI of the patients are independent variables. The survey was given to the staff with a time limit for responding.

The response was anonymous. Staffing data was also obtained by each hospitals database. The nurse staffing indicators included hours per patient day (HPPD), RN hours per patient day (RN HPPD), and skill mix (RN's LPN's, and NA's providing direct patient care). The acuity of the patients was also a factor. The study did ensure comparable data among the four sites. This was done by using the raw data that was provided by the participating hospitals. The appropriate statistical methods were used in this study and the research questions were also addressed with the groups surveyed. Data collection

The study was conducted over a four- week period where data was collected from each facility. The data collection phase included two separate study phases. The first phase was the administration of the survey to the units and the collection of raw staffing data from the hospitals. The NTS was put in an envelope with a letter of explanation about the study. Incentive was given to each participate by the addition of a candy bar. The participation was made known to be voluntary. The subjects were to place the completed survey in a

locked box provided on each unit. A pizza incentive was given for units who achieved a 50% return.

This incentive was appropriate because the staff had to take time out of their work day to do the study. The second phase, which collected the raw data of HPPD, RN HPPD, CMI, and skill mix were obtained from each unit prior to the NTS being administered (Kalisch & Lee, 2011). The collected data was appropriate to the study questions. Statistical data analysis Data analysis was obtained by the use of the Statistical Package for SocialScienceversion 16. 0. The unit analysis is identified as the patient care unit. The mean score for teamwork level obtained from the NTS was collected and combined to a unit level team score.

Statistical analysis was done to address each question in the study. Appropriate methods were used to analyze the data obtained. “ Preliminary analysis involved using frequency, descriptive, and correlation methods that associated with the research question. Correlation analysis was effectively used to address the relationships between hospital bed size, staffing levels, and teamwork” (Kalisch & Lee, 2011, p. 85). Regression analysis was done to identify the correlation of staffing levels as it compares to the five subscales of teamwork.

One analysis identified HPPD as the high level of predictability of teamwork on the unit. The analysis showed that the higher the skill mixes on a floor and higher HPPD, the greater the predictability of teamwork. The findings of the study are adequately summarized by the use of multiple tables. The findings are reported in a manner that would support evidence-base practice. Discussion The major findings of the relationship between staffing

levels and teamwork were interpreted and discussed. This study does demonstrate that there is a relationship between HPPD and nursing teamwork.

It was also reported that the higher the skill mix the greater level of teamwork. Researcher notes that “ the use of actual nurse staffing data adds substantial credibility and confidence to the previous findings” (Kalisch & Lee, 2011, p. 86). The interpretations of the study appear to uniformly flow with the results. The study does discuss the limitations of the study on that the sample was in only four Mid-Western hospitals. According to Kalisch and Lee (2011, p. 87), “ team work is more difficult to achieve in larger hospitals. ” The sample does not provide for generalizability of the findings.

The study recommends further directobservationstudies to measure actual teamwork. Implications The study does discuss the implications of the findings. The results suggest that ensuring adequate staffing is important but also increasing the efficiency of the delivery of care by using staff more effectively. Summary Despite some identified limitations such as generalizability, the study findings appear to have validity and show confidence in the truthfulness of the results. The study does contribute to meaningful results and evidence applicable in nursing practice and hospital policies regarding staffing.

Further study suggested would be to observe larger inner city hospitals with greater levels of skill mix for longer duration of time. References Brewer, B. B. (2006). Relationships among teams, culture, safety, and cost outcomes. Western Journal of Nursing Research, 28(6), 641-653 Kalisch, B. J. , & Lee, K. (2011). Nurse Staffing Levels and Teamwork: A Cross-Sectional Study of

Patient Care Units in Acute Care Hospitals. Journal of Nursing Scholarship, 43(1), 82-88. Salas, E. , Sims, D. E. , & Burke, C. S. (2005). Is there a ‘ big five” in teamwork? Small Group Research, 36(5), 555-599.