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Fostering Peer Evaluation Skills in Nursing Students

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Running title: Fostering Peer Evaluation Skills

Abstract

Nursing peer review is a professional practice in which nurses offer constructive, non-personal, practice-related feedback to fellow nurses. The use of nursing peer review has been recommended by the American Nurses Association (ANA 1988, 2014) and the American Nurses Credentialing Center (ANCC 2008). Despite being recommended by professional organizations, the use of peer review in nursing has not been widely implemented. Evaluation of nursing colleagues has the potential to enhance professional nursing, both in practice and in nursing education.

Fostering the skills needed to provide peers with evaluative feedback might best be accomplished if the process is started during nursing school. Teaching ways in which to give and receive feedback without causing feelings of conflict could normalize the process for future generations of nurses. The purpose of this quantitative, quasi-experimental, descriptive study was to examine the impact of teaching nursing peer review skills to student nurses. Based on results, lessons on providing constructive peer feedback will be incorporated into future semesters in a Bachelor of Science in Nursing (BSN) program at a state university in Arkansas.

Introduction

Nursing peer review is the process of providing evaluative, practice-related feedback to peers in a non-personal, constructive manner (Haag-Heitman and George 2011; Morby and Skalla 2010; Topping 2009). To maintain professional autonomy while also providing safe and effective patient care, nursing must take responsibility and be proactive in ensuring members of the profession are practicing at the highest possible level (ANA 2014; Foster 2015). Haag-Heitman and George (2011) explain that nursing peer review should occur in several forms and should not be solely retrospective, but also concurrent.

Nursing peer review is a skill that requires instruction and practice (LeClair-Smith *et al.* 2016).

Learning to offer feedback to peers, as well as becoming accustomed to receiving peer input, could prepare new graduates to participate in this innovative aspect of professional practice environments by helping students develop skills needed for teamwork, collaboration, and leadership (Wong *et al.* 2016; Yoo and Chae 2011).

Background

Peer review for nurses is not a new recommendation; however, it is a practice innovation that has not been widely adopted nor implemented by most healthcare organizations (Morby and Skalla 2010). According to Roberts and Cronin (2017), nursing has yet to see widespread implementation of peer evaluation and feedback. Other health care professionals, such as pharmacists and physicians, use peer review both retrospectively and concurrently to evaluate the practice and patient outcomes of their colleagues.

In nursing education, the use of peer feedback and coaching is an emerging topic, particularly for use in undergraduate simulations and patient care scenarios (Badowski and Oosterhouse 2017; Boehm and Bonnel 2010). As part of the academic world, nurse educators have practiced peer review and evaluation routinely, both in publishing research and within their departments in institutions of higher learning (Cobb *et al.* 2001; Gazza *et al.* 2017; Harding 2010). To be accredited, nursing programs must also submit to peer review (ACEN 2013). When considering the possibility of student nurses learning to effectively participate in peer evaluation, it is worth noting that nurse educators could be uniquely positioned and qualified to help students develop a working knowledge of how best to accomplish this evaluative practice in a professional manner.

One of the goals of the peer review project was to provide a formalized lesson to students on how to offer and receive constructive peer feedback. According to Topping (2009), peer assessment benefits groups and individual learners, and has benefits for both the evaluators and the students being evaluated. Adding a

lesson on peer review in the junior year of a nursing program presented students an opportunity to learn about the practice after having been briefly introduced to the concept on group projects in the previous semester. Having an initial awareness of the practice may help set the stage for students to gain a deeper understanding of the process.

Statement of the Problem

Nursing is a profession requiring knowledge and skills that must be continuously updated to reflect current research findings and evidence-based practice. Receiving peer feedback is an important way for nurses to assess the need for additional training and new knowledge. Additionally, participation in nursing peer review processes can facilitate quality improvement by providing nurses with an increased awareness of one's own practice through observation of others. Conversely, not addressing the need for increased implementation of peer review could present safety problems and contribute to poor patient outcomes. Since 1988, the ANA has advised nurses to engage in formalized peer review processes on a regular basis. George and Haag-Heitmann (2015) have advocated for the inclusion of peer review in nursing and have developed a conceptual model designed to foster the implementation of peer review programs.

Methods

Following IRB approval, the study took place during the spring semester of junior year in a pre-licensure BSN program. Students were given peer review questionnaires to complete prior to receiving a lesson on peer review. The students then took part in a simulated patient care experience in the high-fidelity simulation lab. Following this simulation activity, study participants engaged in written peer evaluation after having received classroom instruction on how to give and receive professional peer feedback.

The variable under review was the students' attitudes toward participating in nursing peer review processes before and after the intervention. Student demographic data, including age, gender, ethnicity, former occupation (if any), and previous education, were gathered with the surveys. Pre- and post-intervention responses were compared so that statistically significant changes in participants' perceptions of peer review could be detected. Participants' responses were matched pre- and post-intervention using a self-assigned identification code based on the last three letters of their mothers' maiden

names, in addition to the first three letters of the mothers' birth months. Participants included this information themselves on both the pre- and post-tests.

Scope

The peer review activity was offered only to students who were in the second semester of their junior year in the pre-licensure BSN program at a state university. Students who were repeating the second semester of junior year were not eligible for inclusion because they would have already completed the simulation scenario being utilized for the peer evaluation exercise. These students would have previously received faculty feedback on their performances and, as such, there was concern that repeating students would not have been true peers with the same level of experience as first-time students. Students who had transferred into the program were not eligible for inclusion since it was not possible to know if they had received previous instruction and practice in giving peer feedback. Additionally, students who held previous licensure as health care professionals were not included since they would not have met the ANA criteria (1988) as true peers of pre-licensure students. The university used as the setting is in a rural area in the north central part of Arkansas. It is the fifth largest university in the state.

Theoretical Framework

The theoretical framework used for this project was the Feedback Intervention Theory (FIT), first proposed by Kluger and DeNisi (1996). FIT was designed to explain factors that precipitate both the positive and negative effects of feedback interventions. Additionally, the theory attempts to define how varying types of feedback, and the situations in which they are used, can result in positive or negative changes in performance.

Kluger and DeNisi (1996) wrote that there is a hierarchy of three types of feedback interventions. The three types relate to task learning, to motivation, and to self. As attention shifts from the lowest level (task learning) to the highest level (self-related), feedback becomes less effective.

Project Design

The nursing peer review study was performed using a quasi-experimental, quantitative, descriptive design. The independent variable was the peer review instruction and exercise. The variable under review was the impact of the peer feedback lesson and exercise on students' perceptions of the professional

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peer review process. A pre- and post-survey design was used to compare students' perceptions of professional peer feedback before and after the peer review lesson and exercise. The study sample was chosen using convenience sampling.

Students were asked to complete the Instructional Feedback Orientation Scale ([IFOS] (King *et al.* 2009) regarding perceptions of the process of peer evaluation prior to receiving the peer review lesson and again 21 days after the peer review exercise. Following the peer review lesson and the pre-planned simulation, each student completed a peer feedback form and returned the form to the facilitator. Every group member had an opportunity to evaluate the performance of another group member and to have his or her own performance evaluated.

Data Analysis

Data gathered was analyzed using IBM SPSS, version 23 (2015). Responses were based on a 5 point Likert scale. Creswell (2012) describes Likert scales as being interval data and describes the response style as being well-tested over time. Values on the scale were presented as follows: 1—strongly disagree, 2—disagree, 3—neutral, 4—agree, and 5—strongly agree. Results were grouped by area of the instrument (retention, utility, sensitivity, and confidentiality). A codebook defining the study variables was created using a spreadsheet in IBM SPSS (version 23).

Analysis of the Likert scale data gathered in the peer review study was accomplished using the *Wilcoxon signed rank test* for matched pairs. The significance level for the study was set at $p < 0.05$. Results were presented using a z -statistic.

Data from the pre-test was paired with data from the post-test so it was possible to note differences in responses from the same participants before and after the intervention. Comparing the pre- and post-test data helped the researcher determine if statistically significant differences existed in perceptions of the participants before and after receiving peer review instruction.

The accessible population for the study consisted of 38 students ($n = 38$). Informed consent was completed by 36 students. All 36 of the participants who consented to be enrolled in the study completed the pre-intervention survey, though some of the survey data received was ultimately discarded in accordance with exclusion criteria set for the peer review study. Pre- and post-intervention surveys were matched using a self-assigned code that participants were asked to enter on both surveys. After inclusion and exclusion criteria were applied, 31 participants ($n = 31$) were enrolled into the study. The majority of the participants were in the age range of 20-29 years (28), with 2 participants in the 30-39 year age group, and 1 participant in the 40-49 year group. The group included 25 females and 6 males. None of the participants had been previously licensed as health care professionals, though four participants had worked as nursing assistants.

Results

The IFOS instrument (King *et al.* 2009) is a 27 item Likert scale survey that is broken down into 4 major categories: utility, sensitivity, confidentiality, and retention. There were no statistically significant changes noted in any of the pre- and post-survey totals for the 4 major categories (Table 1). However, there were statistically significant changes noted on 3 individual questions within the *Utility* category (Table 2).

Discussion

In the current study, the areas of change noted from pre- to post-intervention were all related to the utility of peer feedback, with students reporting a significant change in how useful they perceive peer feedback to be. The researcher will attempt to build on the results when planning future research and plans to incorporate more in-depth lessons on peer review in upcoming semesters.

Table 1. Pre- and post-survey totals for the 4 major categories of the IFOS instrument (King *et al.* 2009).

Section	z -score $n = 31$	p -value $n = 31$	Pre-survey Median $n = 31$	Post-survey Median $n = 31$
Utility	-1.678	0.093	43	45
Sensitivity	-1.297	0.195	20	22
Confidentiality	-3.60	0.179	18	19
Retention	-0.868	0.385	6	6

Table 2. Pre- and post-survey totals on questions within the *Utility* section of the IFOS instrument (King *et al.* 2009).

Question	z-score <i>n</i> = 31	<i>p</i> -value <i>n</i> = 31	Pre-survey Median <i>n</i> = 31	Post-survey Median <i>n</i> = 31
<i>I will usually reflect on a peer's feedback.</i>	-2.14	0.032	4	5
<i>Feedback from my peers motivates me to improve my performance.</i>	-2.32	0.02	4	5
<i>I feel relieved when I receive positive feedback.</i>	-2.71	0.007	5	5

Because of the small sample size ($n = 31$), results of the study are not generalizable to the target population of all second semester, junior year BSN students.

Recommendations for future research include repeating the peer review study using a larger sample, perhaps using several schools representing other nursing degrees (vocational programs, associate, master's, and doctoral levels), and using other locations as study sites. Additional lectures and role-playing sessions, as opposed to a single session, are advised, as is a longer period of time for future research.

It is possible that performing the peer review study using a group of senior nursing students might have produced more significant results. As seniors, the students would be closer to entering practice as professionals and the information might be received and processed by participants differently than it was processed by junior year students. Students who are closer to graduation might be more receptive due to the feeling that they will indeed complete the program, whereas junior level students are perhaps not as confident that they will enter the profession and use the information. It is also possible that teaching the practice earlier, and continuing lessons on the topic throughout school, would be more effective and results would show a significant difference pre- and post-teaching. Ultimately, the most effective approach to studying the potential effects of teaching peer review to nursing students may be to teach it beginning with the first levels of nursing school and continuing the lessons and exercises throughout the students' time in school.

Regardless of when or where it is taught, peer review is a professional practice that nurses must become not only accustomed to, but proficient at performing. There has been little published research on the teaching of nursing peer review in students. Learning to give and receive peer feedback may contribute to increased professionalism within nursing

and is therefore worth examining further.

Conclusions and Contributions to the Profession of Nursing

Professional nursing organizations, such as ANA (1998) and ANCC (2008), recommend including peer review on a routine and ongoing basis in healthcare organizations. The use of professional peer review may contribute to improvements in patient safety and better healthcare outcomes (Foster 2015). Bonnel and Hober (2016) describe the process as being useful as a reflective tool in education and note that peer review is not widely utilized in undergraduate nursing education. The aim of the study on nursing peer review was to foster positive perceptions among undergraduate BSN students toward peer review processes.

New methods of teaching how to participate in professional nursing peer review need to be explored through research in a variety of nursing programs. Determining the most effective method of helping nurses become accustomed to nursing peer evaluation is a worthwhile endeavor for the future of the profession. Future research on teaching peer review to nursing students is planned using a larger sample and a variety of settings. Additional research will contribute to the current body of knowledge on the professional practice of nursing peer review.

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