

The Effect of a Journal Club on Perceived Barriers to the Utilization of Nursing Research in a Practice Setting



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Professional accountability dictates that bedside nurses base their practice on the best available evidence from research findings. However, some staff nurses may be reluctant to read research and scholarly journals, suppressing their practice and self-development. Findings from this study suggest that perceptions of barriers to research utilization in practice may decrease through the use of unit-based journal clubs. The staff development educator can play a pivotal role in nursing practice progression by implementing journal clubs.

Multiple barriers to evidence-based nursing practice exist. Common barriers to moving research into practice include the nurse's perceived lack of ability to change practice, nursing leadership not supportive of research utilization, staff nurses' lack of time to read research studies on the job, and staff nurses' lack of knowledge regarding the research process (Fink, Thompson, & Bonnes, 2005). Another noted barrier is that organizations often do not provide incentives and recognize nurses who choose to integrate research findings into their practice (Retsas, 2000).

Organization-wide changes that support research utilization and evidence-based practice in a hospital can be difficult to implement. An array of activities must be developed and implemented to support the incorporation of nursing research findings into practice and provide the necessary infrastructure.

LITERATURE REVIEW

To date, no empirical literature is available regarding the effectiveness of journal clubs in reducing perceived barriers to use of research findings in practice settings. Multiple

articles have been published about journal club development (Brooks-Brunn, 1994; Klapper, 2001; Kleinpell, 2002; Nolf, 1995) and their use in nursing student education (Sheehan, 1994). St. Pierre (2005) discussed the value of journal clubs in the education of nurses, students, and nurse faculty; the promotion of staff development via journal clubs; and the support of evidence-based practice through journal clubs. Other article topics associated with journal clubs include their use in promotion of nursing research and practice awareness (Kirchoff & Beck, 1995; Luby, Riley, & Towne, 2006; Shearer, 1995), journal clubs and student nurse education (Goodfellow, 2004), professional staff development and continuing education (Pollard & Taylor, 1997; Stelmach, 1994), facilitation of evidence-based practice (Dyckoff, Manela, & Valente, 2004; Kartes & Kamel, 2003), and fostering organizational-wide nursing practice changes (Tibbles & Sanford, 1994; Turkel, Reidinger, Ferket, & Reno, 2005).

Although the literature suggests that journal clubs may improve the value and effectiveness of health care, nurses have not adopted this practice as a method for continuous learning and evidence-based practice skill development. One of the obstacles to research utilization that nurses have noted is the inability to understand critique and interpret data found in research journals (Kleinpell, 2002; Pravikoff, Tanner, & Pierce, 2005). It is believed that journal club participation may help nurses gain experience and comfort in reading research articles, recognizing well-conducted studies, and cultivating an environment that supports basing clinical practice on the best evidence available (Kleinpell, 2002). It is believed that journal clubs are a method that nursing administrators can introduce to foster cost-effective, high-quality patient care (Vratny & Shriver, 2007).

METHODS

Study Purpose and Goals

The purpose of this study was to determine whether participation in a journal club reduced staff nurses' perceptions of barriers to using research findings to inform their practice. The goals for the study were to:

1. Recruit staff nurses from selected patient care units for participation in a weekly journal club

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The author has disclosed that she has no significant relationship with, or financial interest in, any commercial companies pertaining to this article or educational activity.

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DOI: 10.1097/NND.0b013e31822365f6

2. Provide a journal club experience that met the needs of participants
3. Document the extent of participation in journal club activities
4. Measure journal club participation outcomes in relation to total resources required and changes in participants' attitudes toward research barriers

Research Design

The study used a quasi-experimental preintervention/postintervention design. Descriptive statistics were also used to describe the participants and the frequency of occurrence of each barrier. Power analysis was not indicated because this was a pilot study.

Sample/Setting

Journal clubs were implemented as a pilot study in a Southeastern acute care hospital with 216 licensed beds. A convenience sample of all registered nurses (RNs) working on the medical and surgical units who spent the majority of their time (85% or greater) providing direct patient care were invited to participate in the project. Nurses in an administrative or management position were excluded from participation in the journal club.

Data Collection Instruments

Barriers to using research in practice were identified through the Barriers to Research Utilization Scale, an instrument developed based upon Rogers' Theory of Diffusion of Innovations. According to Rogers (1983), the diffusion of an innovation, such as a journal club, will be influenced by specific characteristics of the adopters (nurses), the organization (size, culture), the communication channels used to transmit information about the innovation, and the innovation itself (complexity, relative advantage).

Content validity of the instrument is supported from the Research Questionnaire employed in the Conduct and Utilization of Research in Nursing Project as well as input from nurses and other experts. Outcomes were quantified using the Barriers to Research Utilization Scale. The revised scale has 29 items. Each item is rated as an ordinal response from 1 to 4, reflecting the degree to which the item is perceived to be a barrier (1 = *to no extent*; 2 = *to a little extent*; 3 = *to a moderate extent*; 4 = *to a great extent*). Higher total scores indicate a perception of more barriers to research utilization. "No opinion" is an additional response. The instrument also has two open-ended questions (Funk, Champagne, Wiese, & Tornquist, 1991). Data taken from this sample were not interpreted related to these questions.

Formative and summative evaluations were conducted to gain qualitative data about ways to make the journal clubs more effective and the value of the journal club. Data were analyzed by extracting themes. A demographic tool

was used to determine the characteristics of the sample being studied.

Protection of Human Subjects

Institutional review board approval was obtained prior to the study. The principal investigator clearly stated in the pre-journal-club meetings that journal club participation would be strictly voluntary and would not affect participant job status in a negative or positive manner. Risks and benefits were fully explained to the potential participants.

PROCEDURE

After providing implied consent, the journal club participants were asked to complete a demographic sheet and complete the Barriers to Research Utilization Scale prior to the first session of the journal club. Journal club education began during the first session after the tools were completed. Weekly journal clubs were conducted by the principal investigator for 10 consecutive weeks. The journal clubs included identification of critical clinical issues, critique of the literature, and discussion of how significant findings might be transferred to patient care. The critique format followed the steps of research problem identification, literature review, conceptual framework, study design, sample, data collection, procedures, data analysis, findings, implications, and overall presentation. The first and second journal club articles were selected by the principal investigator. Upon conclusion of the 1st week's session, the participants chose a topic of interest for the 3rd through 10th weeks. When each journal club session ended, the participants were given a research article to study for the following week. The critique tool was included with the new article each week. The articles were selected by the principal investigator and presented to the participants each week (based on expressed topics of interest), so access to the library was not required during the study. The journal club activity was limited to 60 minutes in length. Each participant who attended five journal club activities over the 10-week study period was asked to complete the Barriers to Research Utilization Scale again at the conclusion of the last session. Completed Barriers to Research Utilization Scale questionnaires were returned to the principal investigator via a confidential envelope after the sessions.

DATA ANALYSIS

Each participant's preintervention/postintervention results were identified by an alias. This information was developed into a code book and electronically analyzed. The number of journal club attendances was noted and included in the descriptive portion of the data analysis. Descriptive statistics were also used to describe the participants and to describe the frequency of occurrence of each barrier. Data provided by participants were analyzed using the Statistical Package for the Social Sciences software. Items on the Barriers

to Research Utilization Scale with missing data were not calculated as part of the subscale means (i.e., the divisor for the mean included the number of items with valid responses).

Before data were analyzed, Cronbach's alpha coefficient was used to establish the internal consistency of the subscales of the Barriers to Research Utilization instrument. Means and standard deviations were calculated for each of the four subscales. Medians were run on individual items to minimize the effect of extreme outliers. A Wilcoxon's signed rank analysis was run to determine differences in ordinal barrier ranks before and after the journal club activities. Paired *t* tests were performed to examine the differences in Barriers to Research Utilization Scale subscale total scores.

RESULTS

The purpose of this project was to implement and evaluate a journal club in one hospital setting, including whether participating in a journal club reduced staff nurses' perceptions of barriers to using research to inform their practice. These results will be reported per previously stated project goals.

Goal 1. Recruit Staff Nurses From Selected Patient Care Units for Participation in a Weekly Journal Club

Fourteen RNs chose to participate in the project. All were women. Ages ranged from 23 to 57 years, with a mean of 40.4 years (*SD* = 14.5 years). The participants had spent a mean of 10.4 years (*SD* = 8.7 years) on their current unit and had a mean of 16.7 years (*SD* = 9.6 years) of experience as an RN. Representation from the units included 57% medical nurses and 43% surgical nurses. Of these nurses, nine were associate degree prepared, four were bachelor's prepared, and one was a diploma graduate. The recruitment goal was 50% participation of all potential nurses on the two units; a 33% participation rate was achieved.

Goal 2. Provide a Journal Club Experience That Meets the Needs of Participants

This goal was measured through formative and summative evaluations. Questions on the weekly formative evaluations were as follows: (a) What was the most valuable thing you gained today? (b) What was the muddiest point? Qualitative data extracted from the formative evaluations were reviewed for themes by a qualitative nurse researcher. Qualitative data extracted from 59% of the overall responses to Question 1 (value gained) were assigned an informative–practice theme and 32% were assigned an informative–research theme. Informative–practice was defined as something gained from the journal club that the participants could translate into practice. An example of this theme was “ideas to prevent future falls while patient is in hospital and raise awareness of risk of falls”

and “ways care of patient have improved over the years as far as lowering use of restraints.” Informative–research was defined as what the participant learned about the research process, including research critique. For example, “the guidelines for critiquing were extremely helpful” and “understanding the 5-point Likert type scale.”

A summative evaluation was conducted at the end of the 10-week journal club session. The two questions asked were as follows: (1) What do you value most about participating in the journal club? (2) How might the journal clubs be modified to better meet your needs?

Once again, qualitative data extracted from the summative evaluations were reviewed for themes. Personal/Professional growth and increased knowledge were the most frequently assigned themes. These themes are related and can explain the expected outcomes of a journal club, when conducted appropriately. When asked how the journal clubs could better meet participant needs, one theme arose: “Meet monthly as opposed to weekly.”

Goal 3. Document the Extent of Participation in Journal Club Activities

Over the 10-week intervention period, the participants had the opportunity to attend 33 journal club sessions scheduled at 4:00 a.m., 7:30 a.m., and 11:00 a.m. on Tuesdays and Thursdays. Overall, average journal club participation per participant was 7.5 sessions. The majority of the participants (91%) attended the 11:00 a.m. sessions. One nurse routinely came at 11:00 a.m. on her day off.

Goal 4. Measure Outcomes in Relation to Resources Required and Change in Participants' Attitudes Toward/Perception of Research

Costs were determined via process evaluation. Documentation included the cost of relieving nurses from their duties to attend the clubs, the provision of lunch/refreshments, costs of advertising and duplication of materials, principal investigator time, and administrative assistant time (e.g., to pick up food, make copies). The principal investigator maintained a journal club cost report. Overall costs to the facility associated with conducting the journal clubs was \$5,693.94, or \$15.06 per participant, per session. The major expense proved to be the principal investigator cost. As the principal investigator was exempt, it may not have been a true factor within the cost analysis. The cost to the institution for RN participant time was calculated to be \$1,659.24. The cost of journal club activities, extracting the principal investigator from the equation, was \$2,544.69, or \$6.73 per participant, per session.

Part of Goal 4 sought to answer the following question: “What were nurses' perceived barriers to using research in clinical practice?” Table 1 presents those barriers most frequently given a moderate to great rating.

TABLE 1 Items Most Frequently Rated as Moderate to Great Barriers to Research Utilization

Items Rated as Moderate–Great Barriers Before Journal Clubs			Items Rated as Moderate–Great Barriers After Journal Clubs		
Subscale	Total % of Respondents	Item	Subscale	Total % of Respondents	Item
Organiz.	85.8	Insufficient time	Commun.	92.9	Research not available
Organiz.	78.6	No authority to change	Organiz.	78.6	No authority to change practice
Organiz.	78.6	Results not generalizable to setting	Adopter	71.4	Isolation from knowledgeable colleagues
Organiz.	71.4	Physician not cooperative with changes	Innovation	71.4	Research not replicated
Commun.	71.4	Statistics not understandable	Commun.	64.2	Literature not in one place
Adopter	71.4	RN not capable to evaluate research	Organiz.	57.2	Physician not cooperative

Comparison of preintervention and postintervention rankings from moderate to great on the Barriers to Research Utilization Scale suggests where emphasis may be placed for future journal clubs. Barriers identified before the journal club were contained mostly within the characteristics of the organization subscale. Only one pre-journal-club barrier was from the characteristics of the adopter subscale and one barrier stemmed from the communication subscale. Post-journal-club barriers were mixed among all subscales, which suggests that perceived organizational barriers to using research in practice are modifiable as a result of introducing journal clubs.

Table 2 summarizes the Barriers to Research Utilization Scale subscale means. A paired *t* test was used as a statistical analysis because the total subscale scores are considered interval data.

The means of the adopter and communication subscales were lower after the journal club activities. Although not significant, these findings were in the expected direction and suggested that nurses' perceived barriers to research related to values, skills, and awareness improved slightly. The mean of the organization subscale significantly decreased. A lower mean suggested that nurses' perceptions of barriers related to the organizational set-

ting improved. This was an anticipated direction change. The significant increase in the innovation subscale mean suggests that participants perceived more barriers to research utilization in practice stemming from the research itself and its questionable contribution to practice. This change may be due to an increase in the nurse's ability to critically review research as a result of journal club critique. The change was also in the desired direction.

DISCUSSION

Limitations

Although all 14 nurses who began the study completed the study, a low participation rate (33%) of eligible medical and surgical nurse participants was a concern. Participant attendance was affected by receiving low census on days when journal clubs were scheduled and by three major holidays (Thanksgiving, Christmas, and New Year's Day).

The instrument reliability of three of the four subscales of the Barriers to Research Utilization Scale was low, which may have been due to the small sample size. A noted limitation was the tool itself, as it was limited to only four responses, 1 = *to no extent* to 4 = *to a great extent*. Response 5 = *no opinion* was a frequent response

TABLE 2 Paired *t*-Test Comparison of Pre- and Post-Journal-Club Barriers to Research Utilization Scale (Subscale Means)

Subscale	Number of Items	Pre-Journal-Club Mean	Post-Journal-Club Mean	Direction of Change	Paired <i>t</i>	<i>df</i>	Significance
Adopter	9	20.5	19.9	Decrease	0.678	13	.255
Organization	8	22.6	20.2	Decrease	2.47	13	.014
Innovation	6	11.6	14.4	Increase	2.09	13	.023
Communication	6	14.5	13.9	Decrease	0.155	13	.440

among participants on both pretest and posttest instruments, resulting in few values for data analysis.

Recommendations for Administration

Regularly scheduled monthly meetings are recommended so nurses can plan and prepare for the journal discussions. Anecdotal notes suggested that the provision of incentives influenced participation. Incentives included paid time to attend journal clubs, meals, support by management for attendance, and recognition of attendance through Tier Advancement Program points. In addition, uninterrupted time at journal clubs was noted as beneficial to create an environment of focus, relaxation, and the ability to maintain meaningful dialogue with each other.

Recommendations for Education

Education is a key factor for journal club activities. Education is indicated for nurses with no prior knowledge of research. Advanced practice nurses need to develop basic research programs prior to initiation of journal club activities and teach research critique to facilitators. Nurses need easy access to nursing databases and librarians/libraries to effectively read and critically evaluate literature. Because each unit/department has its own unique educational needs and patient care challenges, journal clubs must be facilitated at the unit level. Therefore, multiple trained leaders must be willing and able to learn research critique in small hospitals where few employed advanced practice nurses are not readily available for these purposes or partner with schools of nursing.

Journal club facilitators must create a milieu where nurses are respected and given special attention for their interest in professional development and evidence-based patient care. Creating an environment of fun and excitement is also encouraged, and giving small, inexpensive rewards for expressing critical thinking skills shows acknowledgement by the facilitator that the staff member is prepared and growing professionally. It is recommended that nurse educators in hospital settings include nurses at all levels in journal clubs. For the profession to grow and develop, nurses must develop and mentor one another. Nurses can learn from one another and learn to be nursing leaders, patient advocates, or merely listeners during a session of informed sharing, learning, and camaraderie with one another while growing professionally.

CONCLUSION

This study shows that journal clubs can make a significant difference in participant attitudes and reduce perceived barriers to research utilization in nursing practice. Journal clubs were found to be a cost-effective intervention to

merge nursing research and nursing practice in the clinical setting. Anecdotal data suggest that there might be other unmeasured benefits of journal clubs as well.

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