Effect of an Acute Care Geriatric Educational Program on Fall Rates and Nurse Work Satisfaction

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Abstract

Background: A successful faculty-mentored geriatric nurse education program resulted from an acute care-academic partnership.

Purpose: This study educated nurses in best geriatric nursing practices to enhance effective management of common geriatric problems as well as to improve nurse work satisfaction.

Methods: Forty-seven nurses completed an online course in geriatric best practices.

Results: Pre- and posttest comparisons showed a declining trend in the incidence of falls and improved satisfaction with autonomy, task requirements, and nurse-to-nurse interaction among participants. Units in which two or more participants achieved national certification had significantly lower fall rates 3 months after program completion. Participants who attained national certification also had significantly improved satisfaction with professional status.

Conclusion: This partnership represents a replicable model that facilitated the advancement of evidence-based practice and enhanced nurses’ knowledge of best practices in caring for older adults. Early evidence shows that these successes may improve patient outcomes.


Nurse leaders strive to advance professional nursing practice and to introduce, develop, and weave contemporary, evidence-based best practices into the fabric of the nursing department. This approach often requires transforming the practice environment to achieve the highest quality outcomes for patients, families, employees, physicians, and the community. One vehicle for this change is the Magnet Recognition Program. The Magnet Recognition Program, sponsored by the American Nurses Credentialing Center (ANCC), is the highest level of recognition that ANCC offers to health care organizations employing registered nurses (RNs) (ANCC, 2005). The Magnet Recognition Program involves organizational enculturation of the 14 “Forces of Magnetism” that represent practice standards of excellence. The forces emphasize high-quality, evidence-based patient care; clinical autonomy and responsibility; participatory decision-making; strong nurse leaders; two-way communication with staff; community involvement; opportunity for and encouragement of professional development; effective use of staff resources; and high levels of job satisfaction (ANCC). These forces are key elements of an environment that supports, nurtures, and inspires nurses toward professional growth (Weeks, Smith, & Hubbart, 2006) and set the stage for realizing optimal outcomes in patient care (Broom & Tilbury, 2007).
Excellence in practice, education, and research can best be attained when those in education and practice settings combine their talents in productive exchanges (American Association of Colleges of Nursing, 1997). Two local hospitals pursuing Magnet status recognized that an academic partnership was needed to accomplish their goals. Although these agencies were affiliated with the medical school at a major university, neither hospital employed a doctorally prepared nurse researcher. The agencies elected to partner with a local school of nursing to collaborate on practice problems that were of mutual interest. Because older adults make up a major portion of the inpatient population, the agencies believed that improving nurses’ knowledge about best practices in caring for older adults was a priority. A faculty consultant with expertise in geriatrics was funded by each agency to provide expertise in refining practice problems into researchable questions, designing and overseeing the conduct of studies, and analyzing and interpreting the outcomes.

The aim of this project was to educate nurses about the effective management of common geriatric problems, to prepare them for the ANCC certification examination in geriatric nursing, and to measure the effect of the education and geriatric certification on patient fall rates and nurses’ work satisfaction. The study was conducted by two doctorally prepared faculty in collaboration with a university and agency liaison at each setting. Sitting for the certification examination was encouraged, but optional. Anticipated outcomes included a cohort of nurses with national certification who would advocate for adopting practices that would improve the provision of care to older adults on their units. Because older adults are at higher risk for falls, fall rates were selected as one outcome measure. Investigators also anticipated that work satisfaction would be improved among nurses who completed the educational program.

**REVIEW OF THE LITERATURE**

**Geriatric Nursing History**

As a result of improvements in early detection and treatment of disease, as well as an expanded focus on health promotion, U.S. citizens are likely to live for approximately 18 more years than they did 100 years ago (Federal Interagency Forum on Aging-Related Statistics, 2008). This change has resulted in an average lifespan of approximately 83 years. In 2003, there were approximately 36 million people 65 and older residing in the United States, roughly 12% of the total population. By 2050, the percentage is projected to increase to more than 20% of the population (Federal Interagency Forum on Aging-Related Statistics, 2004). Although the population of older adults is healthier than was seen in past decades, approximately 20% of the older adult population has chronic diseases that they manage on a daily basis (Federal Interagency Forum on Aging-Related Statistics).

Because older adults tend to be a sicker population than their younger counterparts, they approach their later years in need of quality geriatric nursing care. However, with a current average age in the 40s, the majority of today’s nurses did not receive formal education in geriatric nursing (Stotts & Dietrich, 2004). Consequently, increased lifespan, which has led to a greater number of older adults, is met with a health care system that is underprepared to provide for geriatric care needs. Rosenfeld, Bottrell, Fulmer, and Mezey (1999, p. 84) state that “today, a nurse’s typical patient is an older adult” and “it behooves the nursing community to ensure that every nurse graduating from a baccalaureate nursing program has a defined level of competency in care of the elderly.”

Extensive attempts have been made to enhance the gerontological nursing curriculum of nursing students to better prepare graduates in best nursing practices. Gerontological nursing has seen much growth since its inception as a specialization in 1966. Since that time, knowledge has evolved about restraint-free care; inappropriate medications for the elderly; ways to better assess older adults; distinguishing among dementia, delirium, and depression; and more. Despite advances in gerontological nursing science, Gilje, Lacey, and Moore (2007) report that nearly one-half of baccalaureate programs surveyed do not offer a dedicated geriatric course, although many do integrate content across courses. Clearly, there is concern about whether nurses are prepared to meet the increasing needs of a growing population of older adults. To allow nurses to provide care that produces the best possible outcomes, the latest evidence about best geriatric nursing practices needs to be disseminated to nurses who are practicing at the point of care.

**Incidence of Falls Among Older Adults**

Inpatient falls are the most commonly reported adverse event in hospitals (Eldridge, 2004). The incidence significantly increases with advancing age because older adults are more likely to have more of the associated risk factors. These include gait instability, confusion, urinary incontinence or frequency, and taking prescribed medications, such as diuretics, narcotics, or sedative-hypnotics (Gowdy & Godfrey, 2003; Hitchco et al., 2004; Oliver, Daly, Martin, & McMurdo, 2004).
Falls produce significant physical, social, and economic consequences. Falls are the leading cause of injury-related deaths in older adults (Centers for Disease Control and Prevention, 2008), and they cost hospitals an estimated $20 million each year (Stevens, Corso, Finkelstein, & Miller, 2006). Half of adults who fracture a hip require assistance with basic activities of living that necessitates moving out of their homes and into assisted care settings (Stevens & Olsen, 2000).

The magnitude of these consequences is likely to increase with current trends that show a lengthening life expectancy. Recent statistics show a 55% increase in the incidence of reported falls among older adults from 1993 to 2003 (National Center for Injury Prevention and Control, 2006). Studies have shown that nursing care can significantly affect the incidence of inpatient falls (National Database of Nursing Quality Indicators [NDNQI], 2006). Therefore, many hospitals have targeted nurses for a central role in their surveillance and fall prevention programs.

**Work Satisfaction Among Nurses**

Work satisfaction is intertwined with retention, performance on the job, and quality of patient outcomes (Irvine & Evans, 1995; McCloskey, 1990; Stratton, Dunkin, Juhl, & Geller, 1995). Researchers report that educational opportunities, autonomy, and positive relationships with colleagues can predict how satisfied nurses are with their work environment (Irvine & Evans; Kovner, Brewer, Wu, Cheng, & Suzuki, 2006; Laschinger, 2008). Feeling confident about one’s ability to perform required tasks and being recognized for a job well done also contribute to nurse work satisfaction (Ernst, Messmer, Franco, & Gonzalez, 2004; Laschinger, Shamian, & Thomson, 2001). Dissatisfaction among nurses can lead to burnout, high turnover, and mistakes that jeopardize patient care and are costly to an organization (Dolan, 1987; McCloskey & McCain, 1987). Specialized educational programs can empower nurses by enhancing the knowledge on which they base clinical judgments. National certification provides formal recognition of advanced knowledge in a specialty area. Therefore, continuing education programs, especially those leading to certification, are a vehicle for increasing confidence with decision-making, autonomy, and work satisfaction (Laschinger).

**Geriatric Nursing Education Program**

As a 2002 recipient of a $90,000 John A. Hartford Foundation Grant to promote gerontological nursing curriculum development, the school of nursing was identified as a rising leader in geriatric nursing excellence. As an extension of this work, the school of nursing received three grants to create a program that would bring knowledge of best practice in the care of older adults to practicing nurses in area hospitals, nursing homes, home care agencies, and other community agencies. Consequently, a 24-hour educational program was developed in consultation with geriatric consultants and the Hartford Institute for Geriatric Nursing (Wallace, Greiner, Grossman, Lange, & Lippman, 2006). Fulmer and Mezey’s (1991) model of unit-based geriatric resource nurses to improve patient outcomes was used as a framework for this intervention. The model asserts that two geriatric-certified nurses are needed per unit to improve geriatric care effectively. The educational program was designed to prepare nurses to plan, manage, and implement effective interventions to meet the needs of older adults on their units. From the evaluations, modifications to this pilot program were incorporated into a 30-hour online version that would satisfy the educational requirement for the ANCC certification examination. The online program consisted of 10 modules: (1) The Aging of America; (2) Geriatric Assessment; (3) Health Policy, Reimbursement, and Cultural Shifts in Aging; (4) Health Promotion in the Elderly; (5) Common Problems of Aging I (falls, restraints, and nutrition); (6) Common Problems of Aging II (sexuality); (7) Cognitive and Psychological Disorders Among Older Adults; (8) Pathological Changes of Aging; (9) Pharmacological Considerations in the Elderly; and (10) Spirituality and End-of-Life Care.

**Acute Care and Academic Partnerships**

Academic-practice partnerships between schools of nursing and acute care hospitals have been implemented nationwide, even among schools of nursing and practice partners with limited resources (Hawley et al., 2007). In attempting to provide the best evidence-based practice, acute care facilities often extend opportunities for partnership to schools of nursing, where nursing faculty experts are prepared with the most up-to-date material to educate students. Conversely, schools of nursing turn to health care facilities for student clinical placements and to assist educators to fulfill clinical practice requirements and provide research opportunities (McConnell, Lekan, Hebert, & Leatherwood, 2007).

The school of nursing offers graduate and undergraduate degrees and is part of a private Jesuit university in a suburban setting in southern New England. The university enrolls approximately 5,000 graduate, undergraduate, and continuing education students at its six schools, and ranks second in the top tier of colleges with master’s degree programs in the North. The concept of academic practice partnerships between the school of nursing and its clinical affiliations was conceived by a dean who en-
visioned the many advantages of these partnerships for all involved parties. Consequently, when the geriatric nursing program completed the successful pilot program and was poised for Web delivery, it was logical to turn to existing practice partners to further disseminate this work. Because there was an ongoing relationship for the purpose of clinical placements for students, the possibility of an expanded partnership was viewed favorably by both partners. Faculty welcomed the opportunity to disseminate the program more widely and evaluate the program with a larger sample. The practice partners saw the educational program as an opportunity for staff to engage in evidence-based practice and promote more favorable patient outcomes.

This study was conducted to educate nurses in best geriatric nursing practices to enhance effective management of common geriatric problems, as well as to improve nurse work satisfaction. Because fall rates are consistently measured across agencies as part of the NDNQI, falls are a common problem among older adults, and falls were specifically addressed in the content of the modules, fall rate was selected as an outcome measure. The research questions guiding the study were as follows:

1. Will fall rates decline on units where nurses completing a geriatric education program work?
2. Will work satisfaction improve among nurses participating in a geriatric education program?
3. Do fall rates and work satisfaction differ between nurses completing a geriatric education program who achieve national certification compared with those who do not achieve this certification?

**METHODS**

**Participants**

Permission to conduct the study was obtained from university and agency institutional review boards. Inclusion criteria, based on ANCC eligibility requirements for ANCC certification, included RN licensure with at least 2 years of experience and 2,000 hours of clinical practice with geriatric populations. In addition, participants needed to work at least 24 hours per week and convey a strong commitment to completing the program. Support of the RN’s direct supervisors based on the criteria of organizational commitment, clinical abilities, and demonstrated leadership, was also required. Licensed practical nurses and RNs working with maternity or pediatric populations or without management support were excluded from the study. To assess commitment, applicants wrote an essay explaining the reasons for their interest in the program. Managers were asked to attest to the clinical and leadership capability of each applicant.

**Materials**

The Index of Work Satisfaction scale ([IWS] Stamps, 1997) is a self-report instrument designed to determine nurses’ satisfaction with various components of their work environment. The 44-item tool requires approximately 15 to 20 minutes to complete. Seven Likert-type response options for each item range from strongly disagree, with lower numbers indicating greater agreement. A factor analysis by the original authors showed six dimensions to the IWS: pay, autonomy, task requirements, organizational policies, professional status, and interaction with other nurses and physicians (Stamps). Internal consistency estimates for five of the subscales exceed the 0.70 standard (Nunnally & Bernstein, 1994) for new instruments (α = 0.70 to 0.89). The professional status subscale was lower (α = 0.46 to 0.52). Item scores are summed and averaged, yielding a mean IWS score for each participant.

A demographic form included questions about work history, educational background, age, gender, and racial or ethnic heritage. Both agencies report fall event data to the NDNQI. Falls are defined by the NDNQI (2006) as “an unplanned descent to the floor (or extension of the floor, e.g., trash can or other equipment) with or without injury to the patient, and occurs on an eligible reporting nursing unit” (p. 6). All types of falls are included in the fall count regardless of whether they result from physiological reasons (e.g., “fainting”) or environmental reasons (e.g., “slippery floor”). Incidents are reported monthly by unit. To ensure accuracy, data for the period of interest in this study were obtained directly from the informatics department at each agency.

**Design and Procedure**

A quasi-experimental pre- and posttest design was used to determine whether unit fall incidence and nurse work satisfaction improved after geriatric nurse education and certification on each unit. A descriptive design was used to analyze the qualitative data on the applications and evaluations.

Two community teaching hospitals in New England participated in this study. Both agencies are nonprofit, have more than 300 beds, and are affiliated with one or more medical schools. One agency has achieved Magnet status and subscribes to the Planetree philosophy of patient-centered care; the second agency is preparing to apply for Magnet status.

Under the direction of the faculty consultant, each agency was assigned a master’s-prepared clinical nursing faculty member to serve as mentor and provide regular on-site support. Mentors collaborated with nurse administrators to design and process applications, collect

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pre- and posttest data, and support participants as they completed the program and prepared for the certification examination. Nurse managers and mentors recruited participants through staff meetings, postings on units, and information sessions. After an expedited review by university and agency institutional review boards, nurses with accepted applications were asked to sign an informed consent form that provided a full description of the study. Nurses were informed that participation was voluntary and would in no way affect their work, status, or evaluation on the unit. They were also informed that they could withdraw from the study at any time without repercussions. To preserve confidentiality, all data were coded and secured by the university research team.

Participants completed the IWS (Stamps, 1997) and demographic questionnaires at the beginning of the study. The mentor gave an orientation to the Web-based educational program, and nurses were asked to complete the program within 3 months. The mentors scheduled monthly meetings to support participants as they completed the online course. Handouts, articles, and practice questions were provided to all of the applicants at the meetings and via e-mail. Meeting times were varied so that all participants were able to attend.

At the conclusion of the study, nurses again completed the IWS. The average delay between pre- and postadministration of the IWS was 6 months. Within the 30 days after program completion, many nurses, encouraged by their mentors, successfully completed the ANCC generalist geriatric nurse certification examination. Nurses scheduled their own examination times at computerized test sites, based on schedule preferences and perceived readiness to sit for the examination. As incentives, the certification examination fees were paid by the institution, and at one agency, awards were given to recognize the first three nurses who successfully completed the examination. Before the examination, mentors reviewed test-taking skills, strategies, and practice questions, and suggested other resources available online from the ANCC Web site. Data on monthly total and mean number of patient falls were collected on each participant’s unit for the 3-month period before the start of the study and the 3-month period after completion of the certification examination.

RESULTS

Data were entered into SPSS, version 14.0, for analysis. Scores on negatively worded items on the IWS were reverse coded so that lower scores indicated greater satisfaction for all items. Missing data were noted on 3% of the IWS responses, but no patterns were present; therefore, all data were retained in the analysis and missing values were not replaced.

Fifty-six applicants met the study criteria and were invited to participate. Of these, one nurse opted not to participate, three left the organization, and five withdrew before completing the program. Of the remaining 47 RNs who completed the program, the majority were White, the average age was 46 (SD = 9.3), the average education and degree level was a baccalaureate, and most had worked full-time on the current unit for more than 6 years (Table 1). Participants tended to be long-term employees (M = 9.6, SD = 8.5) who valued ongoing professional education, as evidenced by an average of 30 continuing education hours completed during the last year. Most of the participants worked on medical or surgical units (55%, n = 26), telemetry units

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>DEMOGRAPHICS OF PARTICIPANTS COMPLETING THE PROGRAM (N = 47)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>n (%)</strong></td>
<td><strong>M</strong></td>
</tr>
<tr>
<td>Age</td>
<td>46.00</td>
</tr>
<tr>
<td>Years of nursing experience</td>
<td>15.38</td>
</tr>
<tr>
<td>Years at agency</td>
<td>9.59</td>
</tr>
<tr>
<td>Years on unit</td>
<td>6.59</td>
</tr>
<tr>
<td>Continuing education hours in the past year</td>
<td>29.59</td>
</tr>
<tr>
<td>Work status</td>
<td></td>
</tr>
<tr>
<td>Part-time</td>
<td>7 (15)</td>
</tr>
<tr>
<td>Full-time</td>
<td>40 (85)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1 (2)</td>
</tr>
<tr>
<td>Female</td>
<td>46 (98)</td>
</tr>
<tr>
<td>Degree</td>
<td></td>
</tr>
<tr>
<td>Associate’s degree in nursing</td>
<td>14 (30)</td>
</tr>
<tr>
<td>Diploma</td>
<td>3 (6)</td>
</tr>
<tr>
<td>Bachelor of science in nursing</td>
<td>23 (49)</td>
</tr>
<tr>
<td>Master’s of science in nursing</td>
<td>5 (11)</td>
</tr>
<tr>
<td>Master’s of science-other</td>
<td>2 (4)</td>
</tr>
<tr>
<td>Race or ethnicity</td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>26 (55)</td>
</tr>
<tr>
<td>Asian</td>
<td>13 (28)</td>
</tr>
<tr>
<td>Black</td>
<td>5 (11)</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3 (6)</td>
</tr>
</tbody>
</table>
(17%, \(n = 8\)), or inpatient psychiatry units (13%, \(n = 6\)). Nurses from oncology, rehabilitation, and outpatient care settings also participated. Thirty-five participants (75%) took the ANCC geriatric certification examina-
- tion, with a pass rate of 86.0% (\(n = 30\)). This result exceeds the national pass rate of 82.6% for first-time test takers (ANCC, 2008). Participants who completed the program represent 19 different units or clinics across the two sites. On all but two of these units or clinics, at least one nurse successfully passed the national certification examination.

A paired samples \(t\)-test was conducted to answer each of the research questions. The paired samples \(t\)-test procedure compares the means of two variables for a single group. An alpha level of .05 was used for all statistical tests.

### Fall Incidence

The following results address the first research question: “Will fall rates decline on units where geriatric educated nurses work?” The average number of total falls on each participant’s unit during a 3-month period before the beginning of the program was compared with the average number of total falls during a 3-month period after completion of the program (\(t[32] = 1.89, p = .073\)). Although not statistically significant, a comparison across inpatient units of the average number of total falls during a 3-month period before (\(M = 3.17, SD = 1.48\)) and after completion of the geriatric course (\(M = 2.56, SD = 1.55\)) shows a declining trend. Because nurses completing the geriatric course would be more likely to have sufficient time to make practice changes that could affect the incidence of falls 3 months after program completion, investigators also compared the 3-month average number of total falls before the course and 3 months after course completion. A significant decline was found in the incidence of falls across inpatient units in the third month after program completion (\(t[32] = 2.62, p = .013\)).

### Work Satisfaction

The second research question was: “Will work satisfaction improve among nurses participating in a geriatric education program?” The researchers addressed this question by comparing mean scores for the total scale and each of the six dimensions of the IWS. Pre- and posttest comparisons did not reach statistical significance; however, there are noteworthy trends in the pre- and posttest mean scores (Table 2). A very slight improvement in overall satisfaction is evident. More improvement is seen in the subscales of autonomy, task requirements, and nurse-to-nurse (but not nurse-to-physician) interaction.

### Effect of Certification Status on Fall Rates and Work Satisfaction

The following results address the final research question: “Do fall rates and work satisfaction differ between nurses completing a geriatric education program who achieve national certification compared with those who do not achieve certification?” Because it has been proposed that at least two geriatric-certified nurses are needed on a unit to produce a measurable effect (Fulmer & Mezey, 1991), a two-way analysis of variance (units with fewer than two geriatric-certified nurses and units with two or more geriatric-certified nurses) was conducted to determine whether certification status may have affected unit fall rates or individual work satisfaction. Nurses

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pretest M/SD</th>
<th>Posttest M/SD</th>
<th>(t)</th>
<th>(p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IWS total scale</td>
<td>3.676/0.726</td>
<td>3.681/0.664</td>
<td>0.044</td>
<td>.966</td>
</tr>
<tr>
<td>IWS subscales</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pay</td>
<td>4.253/1.097</td>
<td>4.031/1.049</td>
<td>1.379</td>
<td>.175</td>
</tr>
<tr>
<td>Autonomy</td>
<td>3.306/0.951</td>
<td>3.480/0.669</td>
<td>1.112</td>
<td>.273</td>
</tr>
<tr>
<td>Task requirements</td>
<td>4.639/1.197</td>
<td>4.829/0.946</td>
<td>1.006</td>
<td>.320</td>
</tr>
<tr>
<td>Organizational policies</td>
<td>4.282/0.972</td>
<td>4.231/0.936</td>
<td>0.293</td>
<td>.771</td>
</tr>
<tr>
<td>Professional status</td>
<td>2.835/0.800</td>
<td>2.839/0.857</td>
<td>0.023</td>
<td>.982</td>
</tr>
<tr>
<td>Interaction</td>
<td>3.151/1.142</td>
<td>3.185/1.018</td>
<td>0.235</td>
<td>.816</td>
</tr>
<tr>
<td>Nurse to nurse</td>
<td>2.893/1.319</td>
<td>3.062/1.193</td>
<td>0.921</td>
<td>.363</td>
</tr>
<tr>
<td>Nurse to physician</td>
<td>3.396/1.183</td>
<td>3.307/1.120</td>
<td>0.558</td>
<td>.580</td>
</tr>
</tbody>
</table>

IWS = Index of Work Satisfaction.
who passed the ANCC certification examination had a significantly higher sense of professional status on the IWS posttest than did nurses who either did not take the examination or failed in the attempt ($F[1, 39] = 4.08, p < .05$). This difference was not present on the pretest ($F[1, 4] = 1.40, p = .26$). Posttest fall rates were also significantly different on units with two or more geriatric-certified nurses ($F[1, 31] = 4.27, p = .048$).

Qualitative Data
A member of the research team conducted a content analysis by coding the qualitative sections of the application (reasons for participating in the program) and the evaluation (content, organization, and format of the program) to determine underlying themes. It was interesting to note what motivated these nurses to participate in an online program that required significant time outside of working hours. From the application essays, several common themes emerged that indicated nurses’ acknowledgment of the importance of geriatrics as a specialty: “most of our patients are elderly/geriatric,” “applies to my field of practice,” and “the geriatric population is increasing.” Others saw the course as an opportunity for professional advancement: “to advance my nursing practice,” “to enhance my knowledge,” “to update and enhance my nursing skills,” and “to mentor and become a role model.”

A third motivation was the belief that the geriatric course was an opportunity that would yield improved patient outcomes, as illustrated by these entries: “to provide the best care” and “to provide/improve quality care.”

After completion of the program, participants were asked to evaluate the quality of the content, the online format, the adequacy of support received during the program, and the organization of the modules. In addition, all participants were asked to rate on a five-point Likert-type scale (1 = strongly disagree and 5 = strongly agree) the extent to which they had gained knowledge that would be useful in their practice and whether they would recommend a similar program to a colleague. Results indicated that participants were most satisfied with the organization of the modules ($M = 4.35$) and that they had gained knowledge that would be useful in their practice ($M = 4.43$). Participants were less satisfied with the online independent learning format ($M = 3.96$), and they preferred more opportunities for structured time as a group ($M = 3.00$).

**DISCUSSION**

Creating, advancing, and sustaining a practice environment grounded in evidence-based practice and nursing research is essential to achieving Magnet status. Partnering on this research project has been a valuable step in that journey. The success of this project hinged on three key elements: support of the institution, motivation of the participants, and strong project leadership. To execute the program successfully, it was crucial to have professional nurses who were willing to commit the time and effort involved. In working with the faculty consultant, nurses have advanced their research knowledge and skills by participating in research under the leadership of an expert in the field of geriatrics. The mentor’s role was critical to maintaining momentum and enabling participants to meet deadlines. Nurse participants had two main hurdles: time and test anxiety. Nurses often had to be encouraged to set aside 1 to 2 hours per week for education and examination preparation. The flexibility of online access was a major asset. Nurses at both sites were also extremely anxious about the certification examination. To keep the program on track, it was very important to set deadlines for each phase of the project (i.e., completing modules, applying for the examination, taking the examination). The eventual outcome was a clear sense of pride and accomplishment.

The number of nurses who chose to complete the online course was impressive, but the number who also passed the certification examination was outstanding, a testament to the administrative support at each agency and the dedication of the on-site mentors. Before this project, only a few nurses were certified in non-critical care areas. That number increased dramatically through this initiative. Even nurses who did not achieve certification obtained core knowledge that will likely be applied to improve the care of older adults.

Limitations of this study included the relatively low statistical power from smaller samples that can mask significant findings. A second limitation was the short time frame for measuring outcomes after completion of the online course. Three months may have been too short a time to realize practice changes based on new knowledge that would affect patient falls. Other factors that were not controlled, such as changes in staff, occupancy rates, or acuity levels of patients, may also have contributed to the improved trends. The significant improvement seen at 3 months is promising, but repeated testing at 6 months and 1 year is needed to determine whether this improvement is sustained. When knowledge is new and the motivation to share with peers is recent, there may be a more significant effect on practice. It is unknown how long it takes for a practice change to be reflected in clinical outcomes. Despite the likelihood that 3 months postintervention was an optimistic time frame for realizing improvements in work satisfaction and fall rates, the data show improvement. These results reinforced the value of the educational program for the participants.
and for others on their units. Since completion of the program, more than 20 nurses have expressed interest in participating in the next program.

The IWS overall scores did not show improvement. This finding could be related to the specific nature of the project and the more general nature of the tool. However, improvements in selected subscale means scores (autonomy, task requirements, and nurse-to-nurse interaction) may relate to greater confidence gained through the acquisition of new knowledge and the improved camaraderie that can occur when pursuing a common goal. Despite the formal recognition by the agencies of those who completed the program, the professional status subscale remained unchanged in the sample as a whole, but improved significantly among nurses who passed the ANCC certification examination. This finding implies that national certification is viewed by these nurses as an important and visible acknowledgment of their accomplishment; however, this result must be viewed with caution because of the lower reliability on the professional status subscale.

To sustain and build on the progress made in this initiative, participants will attend unit-based interdisciplinary shared governance committees. These committees allow bedside nurses to have input on patient care initiatives and to suggest interventions to promote more positive patient outcomes. These committees provide an avenue for disseminating geriatric best practices in a broader context. To promote evidence-based practice, one agency has created a journal club to which all nurses are invited. Led by a master’s-prepared nurse educator, the journal club meets during lunchtime and rotates its location among participants’ units. Articles are posted on appropriate patient units for nurses who are unable to attend the meeting. This continued professional development maintains the visibility of geriatric best practices and sustains the momentum begun through the geriatric certification project.

CONCLUSION

Professional practice is nurtured by increasing knowledge and collaboration. The structure of the geriatric certification project was founded on increasing knowledge through educational support and access to resources. Program content from the 10 modules focused on key issues of geriatric health care and health promotion and helped to prepare RNs for the rigor of a national certification examination. This partnership represents a replicable model that facilitated the advancement of evidence-based practice and enhanced nurses’ knowledge of best practices in caring for older adults. Early evidence shows that these successes may have a positive effect on patient outcomes. As health care institutions strive for Magnet status, academic partnering benefits all parties. Complementary use of resources, such as methodological expertise and collaborative research, will aid in the advancement of professional nursing.

REFERENCES


