Faculty perceptions of implementing an evidence-based safe patient handling nursing curriculum module

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Abstract

Despite the well-documented evidence for preventing musculoskeletal injuries among nurses providing patient handling tasks using ergonomic principles, faculty in nursing schools continue to rely on the teaching of body mechanics which fails to reduce the risk of musculoskeletal injuries. In this article the authors report the qualitative data from a parent study designed to develop and test an evidence-based curriculum module in nursing schools. Focus groups were conducted with participating faculty to elicit their perceptions of facilitators and barriers for implementing a new, evidence-based, safe patient handling curriculum module at their nursing schools. Content analysis was used to analyze the data. Faculty, who were overwhelmingly positive about the curriculum module, related numerous implementation facilitators and recommendations for overcoming barriers. Findings from this study can be used to facilitate implementation of the curriculum module at other nursing schools and thus promote the use of safe patient handling throughout healthcare.

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Despite the well-documented evidence to support safe patient handling practices, manual patient handling techniques, are still being taught in nursing schools. Manual patient handling is broadly defined as the transporting or supporting of loads by hand or bodily force and includes lifting, lowering, pushing, pulling, moving or carrying (Health and Safety Executive, 2007). In contrast, safe patient handling is the application of evidence-based strategies to reduce the risk(s) associated with manual patient handling. Examples of evidence-based strategies include first assessing risk to identify the behaviors that put nurses at risk on a given unit, then identifying ways to avoid the task if possible, redesign the task, or use mechanical devices to reduce the manual forces required. For example, in nursing homes nurses are frequently required to move dependent residents from a bed to a chair. This type of manual transfer puts the nurse at risk for a musculoskeletal injury. In this case, the use of ceiling-mounted lifts with the correct slings and training on the proper use of the lift greatly reduces the risk of injury from transferring the resident. Technology solutions, which traditionally have been underused in patient handling, are often the preferred strategy for reducing the risks. However, the belief that body mechanics will protect nurses from musculoskeletal injury is entrenched in the practices of many nurses and nursing faculty, despite strong evidence that body mechanics alone is not
Nurses have been identified in the top ten ranked occupations for work-related musculoskeletal disorders, with incidence rates higher in long-term care compared to hospitals (Bureau of Labor Statistics [BLS], 2002). High-risk patient handling tasks cause significant biomechanical and postural stressors on the spine and upper extremities resulting in acute musculoskeletal injury, or more commonly, cumulative injury over time. Lifting patients, awkward postures, and forceful movements likely contribute to the risk of low back pain in nurses (NIOSH, 1997).

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This article shares the findings of qualitative data from a parent study titled Development and Evaluation of Safe Patient Handling and Movement Curriculum (Nelson et al., 2007). The goal of the parent, 18-month quasi-experimental study, using a pre/post test design and a non-randomized control group, was to evaluate the translation of current research related to safe patient handling into the baccalaureate curricula taught at 26 nursing schools in the United States (US). The objective of this article is to describe the facilitators and barriers for implementing a new, evidence-based, safe patient handling curriculum module as perceived by nursing faculty at participating nursing schools. The curriculum module was described in a previous article (Menzel, Hughes, Waters, Shores, & Nelson, 2007) and is partially available online (National Institute for Occupational Safety and Health NIOSH, 2007). The researchers were particularly interested in the implementation process, including factors that promoted or impeded the incorporation of the safe patient handling curriculum module into nursing school curricula; they sought recommendations to improve the curriculum module and implementation process. This article includes a review of the literature addressing safe patient handling in nursing education, a description of the evidence-based, safe patient handling curriculum module developed for this study, research methods (sampling, data collection procedure, data analysis), study findings, and a discussion of the research findings.

Background and Literature Review

The research base and evidence to support an ergonomic approach to moving dependent patients is strong, yet faculty in nursing schools are still teaching manual patient handling techniques. The literature review below focuses on the gap between the evidence for safe patient handling and the manner in which patient handling is still taught in nursing schools. The next section will describe the development of an innovative curriculum module to reduce these gaps.

Ergonomic-Based Safe Patient Handling

To date, interventions with the strongest level of evidence for safe patient handling that reduce the risk of musculoskeletal injury among nurses include: (a) patient care ergonomic assessment protocols, (b) use of patient handling equipment/devices, (c) clinical tools, such as algorithms and patient assessment protocols to aid in implementation, and (d) no manual lift policies once all other program components are in place (Nelson, 2006). Through ergonomic assessment, frequent and high-risk tasks are identified through workplace observations; and equipment is identified that can replace manually performed high-risk tasks. Once equipment is installed, initial and ongoing staff training is necessary to insure proper use. Clinical tools, such as algorithms, aid nurses in making decisions about which equipment to use and how many nurses are required to lift and/or move a patient, based on the patientâ€™s degree of dependence and goals for moving the patient. Finally, after all of the components are in place, a no manual lift policy will help to insure program sustainability by identifying requirements and responsible parties.

The safe patient handling project described in this paper addresses a major attempt to change nursing curricula and the role of faculty in educating nursing students on safe patient handling by incorporating the evidence into the curriculum. This curriculum module supports the Handle With Care® campaign by the American Nurses Association (ANA) which focuses on the elimination of manual patient handling to prevent work-related musculoskeletal disorders and injuries (American Nurses Association, 2007).

Nursing Education and Safe Patient Handling

Traditionally new nursing students are taught patient handling skills, and techniques to move partially or completely dependent patients, during basic fundamental nursing courses in a laboratory setting. Patient-handling tasks vary across care settings, but common ones include transferring a patient between bed and chair or between bed and stretcher, repositioning a patient in bed, assisting a patient with toileting, and assisting a patient in standing from a seated position or during walking. Nursing faculty historically have emphasized the use of manual patient-handling techniques that have focused on use of good body mechanics and proper lifting techniques when moving, transferring, and positioning patients. However, performance of manual patient handling tasks is associated with significant risk for injury. Documentation of musculoskeletal hazards in nursing from moving and lifting patients was cited as early as 1898 in a textbook by Hampton, who stated that a nurseâ€™s back injury during patient lifting was due to the femaleâ€™s deficient strength and failure to do proper lifting. Early nursing arts textbooks emphasized the role of the nurse to assist patients with transfers to save the patientâ€™s strength (Committee of the Connecticut Training School for Nurses, 1906). During the post World War II era, early ambulation for postoperative patients became accepted practice, and nursing workload associated with patient handling tasks significantly increased since patients were often unstable, and easily lost their balance. As a result, publications about backaching backsâ€”emerged (Svec, 1951).
The concept of ‘body mechanics’ was introduced by Wright (1945), a physician, in an article in the American Journal of Nursing. The intent of body mechanics was to provide a program to protect nurses and patients while nurses repositioned patients by shifting their weight in certain ways thought to protect the back.

Despite the lack of a scientific evidence base, throughout the 20th century and into the 21st century, nursing schools have continued to emphasize the use of body mechanics for preventing musculoskeletal injuries associated with manual patient handling. Current nursing-skills textbooks continue to emphasize body mechanics (Taylor, Lillis, & LeMone, 2005; Potter & Perry, 2006) despite the fact that numerous research studies have documented the relationship between the use of manual patient handling and musculoskeletal disorders in nursing (Edlich, Winters, Hudson, Britt, & Long, 2004; Nelson et al., 2006).

Safe Patient Handling Curriculum Module and the Faculty Training-the-Trainer Program

A consortium of experts in safe patient handling, from the American Nurses Association, the National Institute of Occupational Safety and Health, and the Veterans Integrated Service Network 8, developed the first draft of a curriculum module for use with nursing students and a train-the-trainer program for faculty (Menzel, Hughes, Waters, Shores, & Nelson, 2007). This draft curriculum module was revised based on feedback from the faculty of the 26 participating schools (described below) and an expert panel composed of a nurse educator, an ergonomist, a nursing health and safety specialist, and an authority on safe patient handling practices. The revised module materials included a revised model of patient handling and principles of safe patient handling (including the newest technologies), ergonomics, and use of algorithms based on patient assessment criteria to standardize decisions about what equipment should be used and how many nurses are needed to perform a patient handling task safely (www.cdc.gov/niosh/review/public/safe-patient). Supplemental materials included required readings, laboratory exercises, student assignments, a quiz, and background materials to enable faculty to strengthen their knowledge base and teach the module more effectively.

Faculty from 26 baccalaureate programs, whose administrators endorsed the project, were invited to a train-the-trainer program held at an annual, safe patient handling conference. The train-the-trainer program consisted of a preconference workshop to dispel commonly held myths about safe patient handling, a three-day conference of paper and poster presentations, an equipment vendor fair, and a one-day postconference workshop, which focused on implementing the new module. During these five days, faculty were immersed in safe patient handling content to build their knowledge and skills. Workshop content included the module material and strategies for teaching the content. Each nursing school was linked with an equipment vendor who arranged for the use of safe patient handling equipment in the schools’ teaching laboratories during implementation of the module.

Methods

Sample

The 30 faculty who volunteered to participate in the qualitative interviews were drawn from the 48 faculty who participated in the parent study (Development and Evaluation of Safe Patient Handling and Movement Curriculum) and represented 23 of the total 26 participating schools. All were women, most were Caucasian (90%), and the mean age was 48 years (SD=9). Faculty averaged 25 years of experience in nursing (SD=11) including 12 years in education (SD=9). Twenty-four percent had received previous training in patient handling. The majority of faculty were directly involved in teaching the content to students. Most interviewees taught both the didactic and laboratory content. Some were team leaders who had attended the train-the-trainer program, and who then assigned the curriculum module to other faculty. In teaching the content of the curriculum module, faculty reported means of 6.9 hours presenting didactic content, 3.1 hours in laboratory instruction, and 13.9 hours in clinical instruction.

Approval was obtained from each participating nursing school and each local Institutional Review Board. Documentation of written informed consent was waived due to the minimal risk of the study and belief that participating in the interview implied agreement to participate in the study. Confidentiality of participants was maintained through reporting data in aggregate summary without participants’ names.

Data Collection Procedures

The project manager contacted each faculty member after the faculty member had taught the curriculum module. Telephone interviews were scheduled with each faculty member and one of three co-
Faculty felt that authors of nursing textbooks should be encouraged to incorporate evidence-based safe patient handling into texts...
Faculty identified administrators, other faculty, and students who were champions for the curriculum module as facilitators of successful implementation. One faculty stated, “My administration was very happy that we chose to participate. They said, ‘We back you 100%.’” Other stakeholders, whose support was perceived as important, included laboratory directors, other faculty, and faculty from other departments (in cases where faculty collaborated with physical therapy and other departments to implement the program). Nursing students were acknowledged as important facilitators who helped to ensure program implementation because they were enthusiastic about the curriculum module. Students appreciated the focus on nurse safety and the importance of protecting themselves from injury. In summing up students’ reactions to the program, one faculty commented:

Students were very excited about the program. They recognized this [safe patient handling] as the gold standard. Some students were stunned and shocked. They found it hard to understand that if safe patient handling techniques were so clearly documented, why was it not being used more? These champions facilitated acceptance and implementation of the module.

Faculty noted two nursing school barriers. One was the difficulty of fitting one more thing into an already crowded curriculum. Another noting this barrier said, “Just had to fit this additional information in and carve out lab time.” Overcoming the curriculum barriers was attributed to strong faculty dedication to implementing the module and the strong administrative support they had.

The other nursing school barrier that faculty identified for using the curriculum module was the challenge of working with faculty colleagues who did not attend the train-the-trainer program and insisted on keeping the old paradigm of relying on body mechanics as the primary means of preventing injury. Faculty reported resistance from colleagues at times. One frustrated faculty stated:

I had trouble with only one instructor...when I heard she went behind what we had done to teach safe patient handling....She taught her students how to do [an outdated manual patient lifting technique] and I felt like I was banging my head against the wall.

This resistance from colleagues required persistence, creativity, and compromise.

A recommendation that faculty offered regarding nursing school resources and processes for using the safe patient handling curriculum module was the need for nationwide dissemination. Many faculty reported that through implementing the curriculum module they developed strategies to disseminate the new module beyond their own nursing schools. Dissemination activities that faculty used included: encouraging students to use the safe-movement algorithms in clinical settings; advising students to ask for and demand safe patient handling equipment when pursuing jobs; encouraging students, as new leaders for safe-movement initiative, to be proactive and share the information with nursing and administrative staff; organizing equipment fairs for community partners; presenting at state nursing associations; and distributing handouts to clinical sites about why students and faculty did not use manual lifting techniques. Great pride was expressed in being involved in the safe patient handling initiative.

**Equipment Vendor Resources and Support**

The major facilitator that faculty identified regarding equipment vendor resources was the technical assistance provided to facilitate successful implementation of the curriculum project. Most faculty noted the importance of having equipment in their labs that provided hands-on experience for students to develop necessary psychomotor skills. Faculty appreciated vendors who were responsive to their needs, communicated in a timely manner, made on-time deliveries of equipment, and worked with them as collaborators. They valued vendors who were flexible in bringing equipment when it was needed and removing it when no longer needed. This flexibility was important to faculty because it meant they did not have to worry about storing unused equipment in laboratories that often lacked storage space. Faculty appreciated not only the equipment, but also the support and training that vendors provided to ensure proper use. Many faculty preferred working with equipment vendor staff who were also clinicians because they understood the clinical issues better than non-clinicians.

The major barrier that faculty identified regarding equipment vendor resources and support was the challenge of working with vendors who did not provide good support. Not all vendor support was perceived as equal. Faculty felt frustrated in a few instances when equipment was delivered late, or when equipment malfunctioned and the vendor was not timely in making repairs.

Faculty believed strongly that equipment vendor resources and support were critical for further implementation across all nursing schools in the US. Faculty wanted to make sure that other faculty who implement the curriculum would work closely with equipment vendors to insure access to equipment when teaching the curriculum module. Faculty felt it would be essential to develop a nationwide collaborative effort with vendors and to have the equipment available on site. They stressed that all faculty teaching the curriculum module should learn about available equipment by attending the large vendor exhibit at the annual safe patient handling conference.
Faculty identified their own optimism for the future of safe patient handling as a major facilitator. They optimistically believed that the students they were now teaching would provide a significant impetus for helping to change the patient lifting and moving paradigm in clinical settings in the future. One faculty related an incident during a clinical experience:

It happened that we were on a unit and we had to move a morbidly obese patient and there was no equipment to be found. Thatâ€™s when I contacted the educator to tell her that we could not provide the care we needed to unless we had the equipment. I also mentioned it to the staff nurses and the charge unit, and they agreed that we needed to have the equipment available. I gave the card from the equipment company to one of the educators and encouraged her to contact that person to come and talk. I donâ€™t know if that happened. I should follow up to see if they have anything in the plan to obtain the equipment.

Faculty viewed themselves as role models for how students could bring about change in clinical settings.

Faculty encouraged students to ask questions about safe patient handling equipment when seeking employment and to make job decisions based on the availability of equipment. Many faculty noted a perception that change was underway. Clinical sites were in varying stages of implementing safe patient handling, ranging from a vague awareness of alternatives to manual lifting, evaluating equipment for purchase, purchasing equipment, and implementing policies to eliminate manual lifting.

The major barrier that faculty identified for applying the content in the safe patient handling curriculum module in the clinical setting was the gap between the content of the curriculum and the manual lifting that commonly occurred in clinical areas where students had clinical experiences. This gap resulted in both student and faculty frustration, and sometimes faculty colleagues used this as a reason for resisting the use of the safe patient handling curricula. One faculty shared this clinical experience with students:

...I had a group of students in clinical. We had an obese man in the bathroom and he could not get up. He was weak and could not get up. We had no mechanical device to get him up and help him walk back to the bed. I had no choice. I got manpower, got his walker, stabilized the walker and had him hold onto that as we assisted him.

This experience left her feeling disappointed and frustrated.

Recommendations that faculty identified for applying the safe patient handling curriculum module content in the clinical setting were: including guidelines for influencing state and local policy about safe patient handling, providing a nationwide list of faculty consultants to clinical agencies, hosting a listserv to facilitate communication among nursing schools and clinical agencies, hosting an open house and equipment fair for local clinical agencies, and developing a speakerâ€™s bureau.

Discussion

The enthusiasm for the curriculum module expressed by faculty in the current study supports findings of the parent study which demonstrated the positive effect of the curriculum module on both faculty and student knowledge and attitudes about safe patient handling (Nelson et al., 2007). Additionally, 95% of faculty rated the curriculum module as good or very good, and eighty percent of faculty intended to continue to teach safe patient handling after completion of the study (Nelson et al., 2007).

Study findings provide important information for successful integration of this new, evidence-based, safe patient handling curriculum module into nursing education. The findings offer guidance to faculty as they support the ANAâ€™s Handle With Care® campaign. Prior research has shown that tailoring interventions to overcome known barriers can facilitate the implementation of clinical practice guidelines and improve care provided and patient outcomes (Shaw et al., 2005). Study findings can be used by faculty to identify potential barriers and proactively diffuse them. For example, the reluctance of some of their colleagues was a disappointment; but it was overcome by administrative support and student enthusiasm for the program. Almost all faculty reported an overwhelmingly enthusiastic response from students to the curriculum materials and the hands-on practice with the equipment and transfer devices. Despite some clinical areas that were not using patient-lifting equipment, students took their new knowledge into the clinical settings and taught others. Both faculty and students rapidly became change agents, role models, and early adopters (Rogers, 1983) to facilitate implementation of safe patient handling into clinical practice at their local institutions.

Findings of this study confirm that faculty implementing the safe patient handling module need to be partnered with equipment vendors and negotiate services with them. The availability of equipment was perceived by faculty as a key component to the success of the project. The message for equipment vendors is that the quality and consistency of vendor support and, in some cases, donations of equipment will greatly facilitate curriculum implementation. In Chibbâ€™s (2005) survey of 275 clinical resource center faculty, no faculty member reported the presence of safe patient handling equipment, and most reported budgetary constraints. This survey finding emphasizes the need to partner with vendors in implementing the safe patient handling curriculum.

While the safe patient handling curriculum module contained scripted content, it was designed so that implementation could be customized based on the procedures, policies, and operations of the local clinical teaching laboratory and nursing program. Emerging research is beginning to demonstrate the effectiveness of several specific approaches to teaching skills to nursing students. For example, Salyers (2007) compared a traditional skills teaching format to a web-enhanced approach. Although the web-enhanced group performed better on examination, the traditional group was...
more satisfied with the course. The safe patient handling curriculum module is flexible enough to be used with traditional teaching modes, computer-assisted instruction, or web-based teaching approaches. Additionally, the clinical demonstrator role in which a staff nurse partnered with faculty to provide skills training was found to greatly increase student's perceptions that both groups were singing from the same song sheet (Hilton & Pollard, 2005). Perhaps closer collaboration between academia and the practice setting than we used in our project would facilitate implementation of the safe patient handling module.

Findings from this qualitative analysis can provide faculty with a road map for implementation and specific suggestions for facilitating curriculum change. Curriculum change will benefit nursing students in the short term by reducing their risk of musculoskeletal injuries. In the long run, it will significantly shorten the research translation time for adoption of safe patient handling in all healthcare settings thus decreasing the risk of musculoskeletal injuries for all nurses. Faculty play an important role in promoting evidence-based practice for safe patient handling by linking curriculum change to improvements in the clinical agencies affiliated with their nursing programs.

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Safe patient handling training for schools of nursing. Curricular materials. Authors. 4. Encourage all nursing educators at schools of nursing to use the evidence-based, safe-patient-handling curriculum module and recommended laboratory activities for nurse training. The ultimate goal is to move students beyond simply knowing content to applying what they've learned in a clinical setting. Keywords. Ergonomics; Equipment-design; Equipment-operators; Health-care-personnel; Injuries; Medical-equipment; Medical-personnel; Medical-facilities; Musculoskeletal-system-disorders; Musculoskeletal-system; Nursing; Safety-practices; Safety-education; Tools; Training; Health-care-facil Faculty Perceptions of Implementing an Evidence-Based Safe Patient Handling Nursing Curriculum Module. Safe Handling of Hazardous Drugs. Procedure of safe handling with cytostatic drugs. Food Handling Practices of Turkish Women Living in Ankara. European use of devices supporting safe handling of cytotoxic drugs. Efforts to reduce injuries associated with patient handling are often based on tradition and personal experience rather than scientific evidence. The purpose of this article is to summarize current evidence for interventions designed to reduce caregiver injuries, a significant problem for decades. Despite strong evidence, published over three decades, the most commonly used strategies have strong evidence that demonstrate they are ineffective. Washington Safe Patient Handling Steering Committee University of Washington Northwest Center for Occupational Health and Safety Funding and support for this project have been provided by the State of Washington Department of Labor and Industries, Safety and Health Investment Projects. Errors can be prevented by designing systems that make it hard for people to do the wrong thing and easy for people to do the right thing. In terms of patient handling this became intertwined with blaming the victim when nurses were injured, in the words of a 1898 nursing text, because she has failed to do the lifting properly. (Hampton, 1898). Change is hard.