



Original article

Nurses and nursing assistants decision-making regarding use of safe patient handling and mobility technology: A qualitative study

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ABSTRACT

Aim: This study explored decision-making regarding use of safe patient handling and mobility (SPHM) technology among registered nurses (RN) and nursing assistants (NA).

Background: Lifting injuries are common among healthcare workers. Despite development of standards for SPHM, the introduction of regulation for monitoring access to SPHM technology, and implementation of education programs and process improvements, threat of injury remains a concern. Although access to SPHM equipment is associated with decreased workplace injuries, access alone does not guarantee use. Questions remain concerning how healthcare workers make decisions to use SPHM equipment, and how they weigh decisions against personal safety.

Methods: A qualitative descriptive study was conducted. Data collection consisted of four 60 min focus groups. Two focus groups consisted of all RNs (n = 14) and two consisted of all NAs (n = 11). Each focus group was audiotaped and transcribed verbatim. Transcripts were coded, repeating concepts identified, and codes collapsed into themes and subthemes.

Results: Qualitative analysis revealed three major themes: barriers to use, perceived risk, and coordination of care. Barriers to use include subthemes of physical barriers, knowledge and skill, and unit culture. Perceived risk includes patient risk and perceived risk to self. Coordination of care includes patient factors and characteristics, assessment of patient needs and abilities, and interprofessional collaboration.

Conclusions: These findings provide new knowledge about the complexity of decision making among care providers in the use of SPHM technology. Interprofessional team approaches to patient assessment and care are important components of confident decision making in use of SPHM technology.

Musculoskeletal injuries among nurses and healthcare professionals related to patient handling activities are a growing concern (Carpenter, 2017; Fitzpatrick, 2014; National Institute for Occupational Safety and Health, 2016). In the last decade, efforts to address this health risk have led to the development of standards for safe patient handling and mobility (SPHM), implementation of federal regulations for monitoring access to SPHM technology, and implementation of educational programs in pre-licensure and employment settings. Despite these efforts, the American Nurses Association (ANA) (2016) Health Risk Appraisal revealed only half of the respondents consistently use the SPHM technology even when it is accessible. Furthermore, high rates of injuries result in days away from work and are a costly concern for individuals and employers alike (Przybysz & Levin, 2017). Despite high injury rates, little is known about the factors that influence healthcare workers' decisions to use SPHM technology.

1. Background

The United States Bureau of Labor Statistics (2015) reports that hospital staff when compared to other industries rank high related to the rate of injuries resulting in days away from work. Although there has been improvement in rate of injuries in recent years, nursing assistants ranked fourth in 2015 (United States Department of Labor Bureau of Labor Statistics, 2015). Importantly, the occurrence of musculoskeletal injuries among healthcare workers may be compounded by an aging nursing workforce, staffing shortages, and the growing problem of obesity in the general population (Kuehn, 2013; Ribeiro, Serranheia, & Loureiro, 2017).

In 2013, ANA published *Safe Patient Handling and Mobility - Interprofessional National Standards across the Care Continuum* with the goal of preventing or minimizing healthcare worker and healthcare recipient injuries (ANA, 2013). Implementation of the ANA standards,

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which address employer and healthcare worker responsibilities, is an important goal in all healthcare settings. Additionally, in an effort to safeguard compliance with employment standards, the Occupational Safety and Health Administration (OSHA) developed a monitoring program for integration of safety practices in healthcare institutions (OSHA, 2013).

Strides taken to implement the ANA standards are multifaceted and include ergonomic programs, no lifting policies, and purchase of state of the art technology to assist with patient lifting and mobility. These programs demonstrate effectiveness in reducing employee injury rates related to manual lifting, reduced lost work days, and reduced workers compensation costs (Karg & Kapellusch, 2012; Lahiri, Latif, & Punnett, 2013; Lee, Faucet, Gillen, & Kause, 2013; Mayeda-Letourneau, 2013; Park, Bushnell, Bailer, Collins, & Stayner, 2009; Powell-Cope et al., 2014). While this data is useful, it may not be adequate in understanding the full scope of the problem. Musculoskeletal injuries may not always be traced to one event; rather, they may be an accumulation of exposures to extreme postures sustained over time and repetitive in nature (Ribeiro et al., 2017). Although improvements in employee injury rates may occur in the short term (up to 1.5 years post-implementation), reports indicate these improvements do not demonstrate long-term (1.5–2.5 years post-implementation) sustainability without additional safeguards (Martin, Harvey, Culvenor, & Payne, 2009; Theis & Finkelstein, 2014).

Evaluation of SPHM programs has led to identification of barriers to use of SPHM technology which include availability of lift equipment, education on the use of SPHM equipment, and ample time to complete assigned tasks (Gucer, Gaitens, Oliver, & McDiarmid, 2013). Employee motivation, commitment by management, and patient-related factors (Karg & Kapellusch, 2012) have also been identified as barriers to use. Many safe patient handling programs have addressed these barriers leading to innovative approaches such as utilization of peer leaders, staff competency training, and nursing and managerial support (D'Arcy, Sasai, & Stearns, 2011; Powell-Cope et al., 2014; Przybysz & Levin, 2017; Schoenfisch, Pompeii, et al., 2011).

Despite all of these efforts to develop effective SPHM programs, nurses report inconsistent use of SPHM technology even with access to equipment (ANA, 2016's Health Risk Appraisal Findings). Understanding the dynamics of decision-making related to use of SPHM technology is important for successful implementation of safety standards and for long term health of the nursing workforce. Questions remain concerning how decisions are made to use SPHM technology and how nurses and nursing assistants weigh decisions against personal safety. The aim of this study was to explore factors which influence decision-making regarding the use of SPHM technology among registered nurses (RN) and nursing assistants (NA).

2. Method

A qualitative descriptive study was conducted to understand RNs and NAs decision making regarding use of SPHM technology. The study was conducted at a 550 bed quaternary care academic medical center. Institutional Review Board (IRB) approval was obtained and informed consent was obtained from participants prior to participation, in accordance with IRB procedures.

Qualitative descriptive studies “offer a comprehensive summary of an event in the everyday terms of those events” (Sandelowski, 2000, p.336). Focus group methods were chosen for data collection due to the characteristic group interaction and non-verbal communication that reveals beliefs, attitudes and feelings about a topic (Krueger & Casey, 2015). Four 60 minute face-to-face focus groups were conducted over a four month time period. A semi-structured interview approach was used and an interview guide was developed to initiate discussion. A team of three researchers, who also served as moderators, conducted the interviews with two moderators present at each focus group. Focus groups were audiotaped and transcribed verbatim for accuracy. Field

notes and moderators' reflections were recorded following each focus group. Analysis, conducted by the research team, began immediately following review of the first focus group transcript. In qualitative research, data analysis often begins while researchers are still collecting data (Merriam, 2009). Researchers originally set out to conduct three focus groups; however, to ensure data saturation, a fourth focus group was conducted which produced re-emergence of existing themes.

3. Sample

A purposive sample of volunteers was selected from nursing staff of a specialty adult intensive care unit (ICU) and one medical-surgical unit designated as a bariatric specialty unit with access to portable and overhead mechanical lift equipment. RNs from each of the two selected units were invited to participate with their unit peers creating homogeneity of groups based on role and work unit. In addition, NAs from across the institution were invited to participate in one of two focus groups, representing each of the two selected units and additional medical-surgical units. Inclusion criteria included: direct care RN and NA on adult medical surgical inpatient unit or adult specialty ICU. Nurses in leadership roles were excluded from the study (clinical head nurses, nurse managers, advanced practice nurses, and clinical nurse educators). Study participants ($n = 25$) were distributed among four focus groups: Two focus groups consisted of all RNs ($n = 14$) and two consisted of all NAs ($n = 11$), with six to eight participants in each focus group. Participant demographic data is presented in Table 1.

4. Data analysis and management

Transcripts, typed verbatim, included numbers assigned to identify speaker participation. Analysis by speaker numbers indicated full participation of group members. The three member research team was led by a doctorally prepared nurse with experience in qualitative research methods. Focus group transcripts were carefully read with concepts and key responses highlighted. Individual analyses were discussed followed by group consensus of key concepts and responses. The second phase of coding included identification of repeating concepts. Codes were collapsed into themes and subthemes. Themes were analyzed and comparisons discussed until census was reached. Potential researcher bias was addressed at all stages of the study including study design, data collection, and analysis. Researchers challenged one another's assumptions and documented a decision trail for all stages of analysis.

Table 1
Participant demographic characteristics ($n = 25$).

		RN (14)	NA (11)
Age	Average	39.3	35.5
	Range	27–49	21–60
Years in practice	Average	4.7	9.2
	Range	1–25	3–26
RN educational preparation			
Associate degree		$n = 6$ (43%)	
Baccalaureate degree		$n = 8$ (57%)	
Learned to use mechanical lift equipment ¹			
School		$n = 14$ (56%)	
On-the-job training (Hospital)		$n = 17$ (68%)	
On-the-job training (LTC) ^a		$n = 11$ (44%)	

¹ Includes responses from both RNs and NAs ($n = 25$). Individuals may have indicated more than one answer.

^a LTC - Long Term Care Facility.

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