Creating Healthy Work Environments 2019

Working Nurses and Musculoskeletal Pain: Evidence-Based Education to Alleviate Pain and Prevent Disability

Jennifer A. Prevatt, MSc, BSN, RN, CNOR
Betty Irene Moore School of Nursing, University of California, Davis, Sacramento, CA, USA
Barton Wise, MD
School of Medicine, University of California, Davis, Sacramento, CA, USA

The work of a nurse is physically demanding and nurses are frequently exposed to risk of musculoskeletal injury. In 2016 over 16,000 registered nurses in the United States missed at least one day of work due to musculoskeletal pain, sprains, strains, or tears (United States Bureau of Labor Statistics, 2018).

Over 10,000 nurses and student nurses participated in the American Nurses Association’s (ANA) most recent nurse work survey which reported that 51% of nurses experience musculoskeletal pain while at work (“Executive Summary: ANA Health Risk Appraisal”, 2016). One of the most common sites of pain in nurses is the low back (United States Bureau of Labor Statistics, 2018).

Nurses who spend more than two hours a day directly caring for patients are at significantly higher risk of musculoskeletal pain and injury than non-patient care workers (Oranye, Wallis, Roer, Archer-Heese, & Aguilar, 2016). Patient handling such as repositioning in bed, transferring from bed to chair, and assisting patients with toileting are the types of movements most often associated with musculoskeletal pain and injury in nurses (Weiner, Alperovitch-Najenson, Ribak, & Kalichman, 2015). Repositioning patients in bed is one of the riskiest behaviors by nurses often leading to low back pain and injury according to Weiner, et al. (2015) and others (Yassi & Lockhart, 2013; Davis & Kotowski, 2015).

There is strong evidence indicating safe patient handling using appropriate assistive devices reduces the rate of musculoskeletal injury among health care personnel (Occupational Safety and Health Administration, 2018). Additionally, there is a growing body of evidence which demonstrates that certain exercise modalities may be beneficial for relieving musculoskeletal pain, including stretching, yoga, and Pilates (Chen, Wang, Chen, & Hu, 2014; Suni, et al., 2016; Jaromi, et al., 2015; Freimann, Merisalu., & Pääsuke, 2015; Ajimsha, Daniel, and Chithra, 2015).

To combat the significant problem of nurse workplace injury, we are developing an online educational module. The module will include three teaching objectives: to raise nurses’ consciousness of their risk factors by presenting findings and trends based on current literature; to explain the importance of safe patient handling and the proper use of assistive devices; and to discuss and demonstrate certain exercise modalities which may help strengthen muscles and thus reduce the risk of muscle strain.

The module is being collaboratively developed with content experts from a variety of disciplines including medicine, osteoarthritis research, physical therapy, and nursing. The module will include video demonstrations of stretching and strengthening exercises that can be completed at work or at home. In addition, the video will contain clear video instruction on how to handle patients safely using assistive devices and proper body mechanics. The content will be designed and developed by the authors, with video capturing performed by a professional video production company.

This educational module is intended to raise awareness of musculoskeletal pain and injury in the clinical setting. The module will be available for public viewing online at Youtube and other sites. The video will be free of charge and will likely reduce injury and benefit healthcare providers globally, including both nurses as well as other clinical care personnel within the United States and around the world.
Title:
Working Nurses and Musculoskeletal Pain: Evidence-Based Education to Alleviate Pain and Prevent Disability

Keywords:
Educational Intervention, Nurses and Workplace injury

References:


Abstract Summary:
Musculoskeletal pain and injury is a common and concerning problem among clinical nurses. An online educational module is under development to provide tools for nurses to prevent injury through safe patient handling and strengthening exercises based on the most current literature.

Content Outline:
I. Introduction: Nurses are at high risk for musculoskeletal injury

1. Example: Over 16,000 nurses miss at least one work day a year due to musculoskeletal injury, sprains, strains, and tears (United States Bureau of Labor Statistics, 2016)
2. Example: Hospital personnel who spent more than two hours a day directly caring for patients were at significantly higher risk of musculoskeletal pain and injury than non-patient care workers (Oranye, Wallis, Roer, Archer-Heese, & Aguilar, 2016).

II. Body

1. Main Point: An online educational module is under development in response to this problem.
   1. Module will include the following content:
      1. Information regarding safe patient handling methods
      2. Current evidence-based exercises to strengthen bodies and/or alleviate pain
   2. Module is being created in collaboration with a physician osteoarthritis researcher, physical therapist, neuroscientist researcher, and nurse

III. Conclusion: The goal of the educational module is to provide nurses with the knowledge and tools to prevent debilitating injury and/or to lessen musculoskeletal pain through evidence-based strengthening and stretching exercises.

First Primary Presenting Author
Primary Presenting Author
Jennifer A. Prevatt, MSc, BSN, RN, CNOR
University of California, Davis
Betty Irene Moore School of Nursing
Master's Leadership Student
Sacramento CA
USA

Professional Experience: I am currently in a masters program and my thesis focus is on the musculoskeletal health of nurses. Over the last four quarters, I have delved into the research to learn how injury is affecting nursing as a whole, and how nurses can protect themselves from becoming injured.

Author Summary: Jenni Prevatt, BSN, MSc, CNOR is a perioperative nurse educator at UC Davis Medical Center in Sacramento, California. Jenni is currently in the master's program at the UC Davis Betty Irene Moore School of nursing and for the past year she has researched musculoskeletal injury and prevention in nurses. Jenni is passionate about keeping nurses healthy and in the workplace for the benefit of her coworkers and patients.

Second Author
Barton Wise, MD
University of California, Davis
School of Medicine
Associate Professor
**Professional Experience:** Dr. Wise is a rheumatologist and clinical epidemiologic researcher with a special focus on osteoarthritis and musculoskeletal pain, as well as sex differences in manifestations of musculoskeletal disease and radiographic and surgical outcome measures. He is an MD and an associate professor with 10 years experience at UC Davis.

**Author Summary:** Dr. Wise is a rheumatologist with training at Boston University School of Medicine and residency at Brown University. He is an associate professor at UC Davis for 10 years, and a clinical researcher in topics related to musculoskeletal pain, osteoarthritis, injury, surgical and radiologic outcomes, and sex differences.